Address in Psychological Medicine

ON

MODERN CONCEPTIONS OF THE ETIOLOGY OF INSANITY.

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MR. PRESIDENT AND GENTLEMEN,—Twice during the current decade the British Medical Association has demanded an Address in Psychological Medicine. For the first time in its history (in 1890) Sir James Crichton Browne was requested to perform this duty, and now, after a short lapse of years, a similar duty has devolved on me. This mere fact must be gratifying to the specialty we had and have the honour to represent as indicative of a growing consideration accorded to a department of medicine which till lately has, in the opinion of many, held a somewhat doubtful position in the realm of the medical sciences. It may be suggested that there is "a sweet reasonableness" in the demand for addresses on this subject during the current decade, for during the corresponding period of last century vast changes were brought about in the principles governing the management of the insane in France and Great Britain, and that therefore it has been deemed desirable to commemorate the centenary of a beneficent revolution. But I doubt much whether this epochal consideration has had much to do with the matter, nor do I think that the requests of your council for addresses on the subject have been prompted by social considerations affecting the general public directly.

Doubtless the rapidly-increasing incubus of lunacy is seriously complicating Poor-law administration, but the question of relief from its pressure is not one which can be referred to the opinion of a single individual. It is a big question with many ramifications, social, medical, and legal, and I take this opportunity of suggesting that its consideration might be referred to a mixed commission appointed by this great Association consisting of authorities in lunacy, representatives from the general profession, lawyers, and Poor-law administrators. It is possible that such a commission might arrive at valuable general conclusions which might influence future policy and arrest the haphazard drifting one which at present obtains. I believe the actual reason for the requests for these addresses to be that the profession at large is alive to the fact that so-called psychological medicine is becoming day by day more and more incorporated in general medicine and less and less a peculiar and isolated department; that with the advance of knowledge of the nervous system the glamour which hung over the general conception of insanity is becoming dissipated; and that the various phases of mental alienation are coming to be recognised as symptoms of numerous and very various morbid physical conditions. In point of fact we are drifting away from the psychological conception of insanity, from the contents of the term "mental disease," even as our ancestors drifted away from the idea of demoniacal possession. "*Nulla mens insana sed in corpore insano*" expresses the principle which is, to say the least, beginning to regulate our conception and our practice in respect of all the conditions comprised under the generic term "insanity." It may be freely admitted that the proposition was enunciated centuries ago, but the theories of the connexion between diseases of the general system and mental symptoms were so loose as to exercise little or no influence on principles or practice. The popular conception of insanity a hundred years ago was to all intents and purposes psychological; at the best it was a rude mixture of a pseudo-psychology and a pseudo-pathology identical with what we find in the pages of Burton, and the views of the medical profession, with a few isolated exceptions, were not much further extended. I hold it to be my duty to-day, so far as time admits, to review the course of events which have served to divert the current of opinion, to indicate the palpable indications of change, and the bearings such change has had, is now having, and may in the future have, on the treatment of the insanities. In so doing I can only hope to sketch the subject in the broadest manner, marking merely the main historical points, and reviewing it from the standpoint of one who for forty years has studied the progress of events.

STUDY OF THE INSANITIES.

It was inevitable that from the earliest down to quite recent times the study of the insanities should be carried out on psychological lines. The prominence of the mental symptoms asserted itself and cases of insanity were classified under the terms "mania," "melancholia," and "dementia." Notwithstanding that these so-called forms were based on mere external appearances, that their common characters were so loose that to say a case belonged to any one of them gave no further indication than could be derived from superficial observation of the case itself, these terms assumed the proportion of diseases. The symptom was the essence of the case and the underlying causating condition was ignored. Undoubtedly to the public and the lawyer the mental symptoms must always be the essence of the case, but to the physician it was not. He has to go further back and seek for the *fons et origo mali*. To him the underlying morbid condition is the essence of the case. Still, in the hands of Pinel and his school the psychological method of study subserved important purposes, the most important of which was the expiscation of general paralysis of the insane out of the general mass, accomplished by the keen clinical observations of Bayle and Calmeil. But the evils of concentration on psychology are well illustrated by the instance of Pinel himself. He, a man of high scientific attainments, a mathematician, an ardent student, and the translator of the works of Cullen, extended to the insanities the analytic method which he held should govern the study of all diseases, and accordingly he not only set aside as useless the observations of Haller and Portal, but reconstituted the Hippocratic classes of insanity as concrete pathological entities. From the acknowledged position attained by Pinel in scientific medicine by the force of character which showed itself in the bold steps he took to improve the management and treatment of the insane, and from the reputation he most justly gained from the beneficent movement, his influence has been and is even now great on the study of insanity. Most of his pupils followed his line of observation, and down to the present day mania, melancholia, and dementia hold practically the position of pathological entities in the mind of the public, of the lawyer, and of no small part of the medical profession. This undivided adherence to the psychological principle of study led to "an undue love of minute detail" and consequently to undue extension. Instances in which intellectual deficiencies were not so apparent as changes in feeling and conduct were designated cases of "moral insanity," with such sub-classes as pyromania, erotomania, kleptomania, homicidal and suicidal mania, and so on, irrespective of the clinical observation that no case of insanity exists without moral aberration, and that in those cases in which moral obliquity is most prominent the intellectual faculty is also weakened, inasmuch as the patient is not able to recognise the nature of his immoral acts or weigh their consequences. Thus confusion became worse confounded and fallacies arose within the psychological conception itself. It had, moreover, a further result in the production of a conflict between law and medicine, the consideration of which, interesting as it is, the limits of this address do not permit of. All that need now be said is that the assumption of a clinico-psychological position on the part of the physician in medico-legal cases served to intensify in his mind the importance of the psychological nosology of insanity. This becomes all the more evident when we turn to the work of such authorities as Stahl, Jacobi, Sauvage, and Cullen, who brought to bear on the subject various principles of study of disease at large, yet when they proceeded to classification of so-called mental diseases reverted to metaphysical or psychological considerations. Accordingly so-called psychiatric medicine held a peculiar and isolated position and, as Griesinger said, "its study was supposed to be distinguished by some difficulties *sui generis*." It is only during the last thirty-five years that the study of the insanities has ceased to be so distinguished, or at least

that scientific data have been afforded which should prevent it being so distinguished, data which, although still far from perfect, have afforded starting points to the psychiatric physician for the scientific study of his subject. In passing let me say that I deprecate the use of the word psychiatric, but it has become so commonly employed as indicative of the study of morbid mental action as to render its provisional use convenient.

STATE OF KNOWLEDGE IN 1864.

It is of interest and importance to contrast the state of knowledge of the anatomy and physiology of the cerebral hemispheres in 1864 with that of 1898. Up to the former year even the rough naked-eye anatomy of the convolutions was chaotic, only some two or three gyri being recognised as distinct anatomical landmarks, and it was only then that Gratiolet reduced them to system, demonstrated their orderly arrangement, and propounded a nomenclature which, with certain modifications, is in use to-day. The position at the same time as regards minute anatomy, and therefore as regards physiology, is best illustrated by a quotation from the sixth edition of Carpenter's "Principles of Human Physiology." He therein states: "It is a point specially worthy of note that no sensory nerves terminate directly in the cerebrum, nor do any motor nerves issue from it; and that there seems a strong probability that there is not a direct continuity between all or any of the nerve fibres distributed to the body and the medullary substance of the cerebrum. For whilst the nerves of 'special' sense have their own ganglionic centres it cannot be shown that the nervous fibres of 'general' sense, which either enter the cranium as part of the cephalic nerves or which pass up from the spinal cord, have any higher destination than the thalami optici. So the motor fibres which pass forth from the cranium, either into the cephalic nerve-trunks or into the motor columns of the spinal cord, though commonly designated as cerebral, cannot be certainly said to have a higher origin than the corpora striata. And we shall find strong physiological as well as anatomical ground for the belief that the cerebrum has no communication with the external world otherwise than by its connexion with sensori-motor apparatus; and that even the movements which are usually designated as 'voluntary' are only so as regards their original source, the stimulus which calls the muscles into contraction being even then immediately issued from the cranio-spinal axis as it is in the movements prompted by the reflex stimulation of an external impression." This was the opinion of the recognised physiological writer of the day, who, in the absence of anatomical data, set aside the results of ablation of the hemispheres as demonstrated by Flourens and disregarded the inductions of Laycock bearing on what he termed the reflex function of the hemispherical ganglia. The gap was bridged by the ingenious methods of cutting and staining devised by Gerlach and Lockhart Clarke, who were the pioneers of a system of research which, developed in the hands of Meynert, Max Schultze, Rudolph Wagner, Kölliker, Gowers, Weigert, Bevan Lewis, Golgi, Ramon y Cajal, Nissl, Flechsig, and others, revealed paths of conduction between the outer world and the regions of highest cerebral function, between hemisphere and hemisphere, between convolution and convolution, and between the tracts of the special organs of sense. Let me advise those amongst you who desire to fully recognise the altered state of things to keep in mind the statement of Carpenter just quoted and then to study Déjerine's "Centres Nerveux," the last edition of Kölliker's "Handbuch der Gewebelehre des Menschen," or the more readily accessible "Text-book of Physiology" by Michael Foster. In the last edition of this most charming work the part written in conjunction with Sherrington sets before the student a wonderful panorama of brain connexions, paths of conduction between organs without and within the skull, between the various organs of the brain itself, and between various parts of the same encephalic organ. Although the authors never overstep the physiological limit it is difficult for the reader to avoid, whilst studying the relations of the mechanism by which impulses are distributed, the construction of schemes which for the moment seem to make it remotely feasible to conceive how it might be possible to account for the transmutation of external impulses into states of consciousness. Need it be said that his dreams are short and that he wakes to the fact that he is vainly seeking to think of the unthinkable and that his sphere is limited to the study of structures, the destruction or implication of which renders mental activities impossible or imperfect. The very brilliance of the anatomical demonstrations and of the physiological deductions emphasise the wide gaps in our knowledge. Large areas of the cortex exist to which no system of experimentation has been able to assign or even to suggest special functions. But Flechsig has of late asserted that certain of these unnamed regions in the brain may be filled in, for he has arrived at the conclusion, founded on a series of anatomical, physiological, pathological, and clinical observations, that certain of the cortical areas on the superior and frontal aspects constitute the material "antecedents" of mental activities, in that they are the areas in which the stimuli of the various sense spheres are associated. Great as has been the work of the anatomist that of the physiological pathologist has been equally important. Hughlings Jackson's name must ever hold the foremost place in this department of science, and I am sure Fritsch, Hitzig, Ferrier, and Gowers would be the first to acknowledge that his induction opened up that field of inquiry which has been of such importance to the study of nervous physiology and pathology. It is not necessary for the present purpose to do more than allude to the observations of these authors as they are matters of common knowledge, and it is impossible to-day to do more than allude to the contributions of the experimental pathologist, the embryologist, the physicist, the chemist, and the comparative anatomist, all of which converging expand our views on the general question.

THE PSYCHO-PHYSICAL SCHOOL.

The physiologists of the psycho-physical school which arose as a result of scientific developments advanced the study of psychology so far as they ranged scientific data so as to add to the "provisional body of propositions" about states of mind necessary for their philosophy. Whether our knowledge of states of mind has been materially increased by the lucubrations of this school is open to question, but there can be no doubt that the views, not only of the physiologist, but of all thinking men, have been enlarged by the application of the philosophic mind to the scientific position. Were it only that the world has had placed before it the proposition that the essence of mental life and the essence of bodily life are the same—namely, the adjustment of inner to outer relations—great gain has accrued to science and philosophy. But I verily believe that the change of conception of the nature of the insanities is much more due to the establishment of scientific data bearing on the antecedents of mental action than to the generalisations of the philosopher as to mental activities. Remember we are dealing with the mental attitude of a profession which deals with material and which till lately, so far as the cerebral material is concerned, had slight scientific knowledge. Gradually—no, I should say rapidly—perhaps too rapidly for complete assimilation—there has been presented to the physician knowledge of a cerebral apparatus on which he is warranted in basing working hypotheses and practice. Until that apparatus was demonstrated he could not assert, except as an assumption, the fundamental physiological principle that mental action is a function of connexion, or the pathological corollary that interruption of connexion is the cause of impaired mental action. Given those starting points he can work in the same atmosphere as a brother physician. That atmosphere may not be—nay, is not—so clear as that of his colleague; he may still see through a glass darkly; but what he does see is a revelation to him which could not have been afforded by the study of a philosophy which, except in certain of its provisional propositions, is not cognate to medicine. Time to-day will only serve to allude to the observation around which all others centre. That, to my mind, is the demonstration of mechanism by which impulses are carried from the periphery to the cortex and from the cortex to the periphery. We know that series of fibres exist which, starting from the entire surface of the body, the muscles, and from the mucous membranes, are collected in the spinal cord and pass upwards to the optic thalami, whence—as demonstrated by Flechsig whose observations have been confirmed experimentally by Ferrier and Aldren Turner—they are distributed in three systems to the cortex. We will deal with only one of these "sensory" systems—that which passes directly to the Rolandic cortex without forming connexions in their upward course with any other system of fibres. In the external layers of the grey matter these fibres come into relation with the dendrites of the pyramidal cells, but there is no anatomical continuity

between the sensory fibres and the dendrons; they transfer impulses by contact. It is contended by certain observers that the liberation of energy takes place in the dendrons, which by their gemmulæ are in close contact with the dendrons of other cells, forming what Foster terms "synapses." Be this as it may impulses descend to the cell bodies, through which certain of the fibrils of the dendron pass to the descending axon—till lately spoken of as the axis cylinder—the fibrils of which are distributed to the periphery, throwing off collaterals to remote areas of the cortex. In order to obtain and maintain the conception of the mechanism of a circuit it might be well not to restrict the term "neuron" to the cell body and its dendritic processes, but to include in the term the ascending conducting apparatus, the cell body, and the spinal, cerebellar, and cerebral distributing arcs, and to regard the whole apparatus as a physiological if not an anatomical unit.

It is not necessary for our present purpose to consider where and how the transmutation of peripheral impulses takes place, but it is of importance to emphasise the statement that impulses are not generated in the cell body. As Gowers says, the old battery idea must be thrown aside. It may be regarded as the "vital centre" of the neuron, and making allowances for the possible action of the dendrons it may be held to be a receiver, conservator, and transmutator of energy, and a liberator and distributor of energy by means of its synapses with other pyramidal cells, and, with what is of supreme importance, with association cells. But all impulses come from without, a fact which must have important bearings on the question of the adjustment of outer to inner relations. Although the neuron has been spoken of as an organ it may be as well to state, for the benefit of any layman who may be present, that the neurons can be counted by millions; but anyone can realise that an almost unappreciable number of organs must exist for the reception and distribution of the constant and continuous flood of impulses which streams from without inwards to the brain. It is as difficult to estimate the influence of the developments of knowledge of the nervous system on the individual general physician as it is to gauge the influence of bacteriology. Our acquaintance with both these subjects is a recent acquisition. The latter is a new science, and I believe I am right in saying that in the case of many of us only its outlines are present with us. But its principles pervade the method of thought of the whole profession. So with the study of the minute anatomy of the brain; none but experts can be expected to be acquainted with the full details of its anatomy, but the great leading facts as to structure and the facts, theories, and warrantable assumptions as to its actions have operated, and continue to operate, on the views of the specialty at large. Its members, knowing that they have a mechanism to deal with, solution of the continuity of which in any part of its course may affect its function, have a scientific foundation for the study of the morbific influences productive of interruption of connexion. A strong indication of the awakening of the scientific spirit is afforded by the earnestness with which the study of the morbid anatomy of the brain is being prosecuted by the psychiatrist all the world over. Shortly after methods of cutting and staining microscopic sections of nervous structure were promulgated the rough turning over of the soil was begun. Naturally, in dealing with what was then an occult subject certain errors of observation and deduction were made; still, the fact was elucidated that marked departures from health were to be found by microscopic examination of the brains of persons dying insane. Steady labour, however, soon had its effects, and the results were embodied in the work of Bevan Lewis, in which not only were lesions described in the mass, but differentiation of special lesions in connexion with certain classes of insanity were demonstrated. Since the publication of that book our knowledge of the minute anatomy of the brain has been considerably increased and with it our knowledge of its lesions and our appreciation of their significance. Let me allude to two instances of this. First, the demonstration of the loss of gemulæ of dendrites under the action of disease, the organs which we have a right to believe have important conducting functions; and, secondly, to changes in the cell bodies, the significance of which was misinterpreted so long as it was regarded as an originator of impulse. Now that we understand that one at least of its functions is control over the nourishment of the great neuron the pathological value of its lesions assumes different but still very important proportions, inasmuch as the consequences of impaired trophesis, or interruption of continuity must be sought for in the synapses or in other parts of the paths of conduction.

THE PATHOLOGY OF INSANITY.

The value of research into morbid cerebral anatomy made itself so strongly felt that laboratories were established in many asylums, and eventually the County Council of London were so deeply impressed by the importance of the subject that they instituted a thoroughly equipped laboratory for the systematic study of the pathology of insanity, placing it in charge of that able and experienced physiologist and pathologist Dr. Mott. The work he has already accomplished is of great interest and value and we may confidently anticipate rapid progress in this department of science as the result of his labours. Scotland has followed suit. An association of asylums has been formed for the same purpose. Assisted by the Royal College of Physicians of Edinburgh suitable premises have been provided and systematic work is being prosecuted under Dr. Ford Robertson, one of whose most important duties is the instruction of assistant medical officers of asylums in methods of research. Similar institutions have been erected in the United States and if I merely refer to the observations of Van Giessen of New York, of Berkeley of Johns Hopkins University, and of Hodge of the Clark University, evidence is afforded that important scientific results have been already obtained, bearing, not only on morbid anatomy, but on physiology and normal anatomy. Contributions flow in from Germany, Italy, France, and Russia, and it may be truly said that the psychiatrist all the scientific world over is alive to the necessity of tracing the lesions productive of solutions of continuity as an essential part of the pathology of the insanities. In this connexion I may allude to the importance attached to science by the Medico-Psychological Association of Great Britain and Ireland. This association holds examinations for the certification of practitioners already conversant with insanity. Whilst demanding evidence of knowledge of the normal and morbid anatomy of the nervous centres it excludes psychology in any form as a subject of examination. I do not say this exclusion is to be commended, more especially as it relates to physiological psychology; it is only adduced as an example of the prominence given to pathology. As a consequence of this system of study a vast change has come over the aspect of psychiatric literature. The journals of the day, instead of dealing largely with analyses of the mental condition of real or imaginary persons with abstract considerations and mere clinical details, are now mainly occupied by papers of a strictly scientific character bearing on the production of neuroses, and the reports of cases are rarely confined to a mere description of symptoms, and in one particular instance — the monumental work of Bevan Lewis—we have the study of the insanities preluded by a systematic account of the cerebral apparatus instead of by an attempt to analyse mind, which was the time-honoured introduction to works on mental aberration. But the all-important question remains to be answered, What effect has the change in the principles of study had on general pathology, practice, and treatment? As regards general pathology the evidence is manifold, but I must confine myself to two illustrations. In former times the theory of the effect of the mind on the body held a foremost place and gave rise to many misconceptions. For instance, the general degradation of the system, the complications in the intestinal and reproductive systems, which are such marked and important symptoms in many of the insanities, were regarded either as the results of abnormal mental action or as its cause. Now that we recognise that the brain exercises trophesic functions over all the organs of the body we are alive to the fact that such degradations are referable to imperfect brain action, that they are secondary on the reduction of its nourishing action, and are to be treated accordingly. We connote the well-known results of experimental ablation of the cerebral hemispheres with the evidence of diseased action observable in those regions amongst the insane. Another evidence of change is afforded by the acceptance and extension by the psychiatrist of the principle that all mental symptoms are produced by the action of the same causes of disease which act in other systems than the nervous. In the absence, which I believe will be but temporary, of a nosology of the insanities founded on

morbid anatomy we find him tracing the history of each etiological class, studying each and all on the same lines as the hospital physician follows in the case of ordinary disease. He is no longer content with the rudimentary classification of the insanities; he disregards the six "Disorders of the Intellect" set forth in the "Official Nomenclature of Diseases," published in 1871, and associates with and qualifies each symptom by an etiological term indicative of the morbific agency which has been potential in its production. Thus he is brought into close contact with general medicine and is asserting, in the words of the far-seeing Griesinger, that "diseases of the nervous system form one inseparable whole, of which the so-called mental diseases form only a certain moderate proportion."

TREATMENT OF THE INSANE.

The psychiatrist has influenced public opinion in this respect very markedly. In most of the recently erected institutions for the insane at home and abroad we find separate hospitals provided for the treatment of recent and acute cases. This surely marks the reduction of theory to practice. Instead of the subject of a recent attack of insanity being mixed up with the residuum of chronic cases he is placed in a separate institution where he is submitted to systematic treatment on thoroughly hospital principles. The extreme delicacy of the brain structure demands early and assiduous medical treatment in order to prevent disintegration and destruction of tissue; and the psychiatrist has so forced this on the mind of lay asylum authorities as to have induced them to place at their disposal hospitals suitable for this purpose. This to my mind illustrates how widely diffused the change of feeling in regard to the insanities has become extended. But even with such appliances many of those working amongst the insane are heavily handicapped, as no provision is made by the public for the treatment of cases in the initial stages. Statistics show that the increase of chronic lunatics occurs amongst the poorer classes of society and not amongst the rich. I believe this to be due to the latter being able to place members of their class showing indications of incipient insanity under systematic treatment at home during the prodromal stage, whilst the former are compelled to allow matters to drift till cases become more or less confirmed. We know that if we exclude general paralysis and epileptic insanity from consideration at least 80 per cent. of recent cases are amenable to treatment. But such treatment is necessarily costly as it involves nursing, possible change of residence, and continuous medical attendance. This is out of the power of the poor to obtain. All general hospitals shut their doors against persons suspected of insanity on the ground that the asylum is the proper place for their treatment. The asylums, however, cannot receive cases until the symptoms are so far advanced as to warrant certification and in England especially the procedure for the transmission of insane persons to asylums is so absurdly cumbrous as to prevent many persons being placed under treatment until such time as the probabilities of recovery are seriously lessened or the case is hopeless. How this state of matters can be improved is one of the questions to be taken up by the commission I have suggested. Some relief may be obtained by the inclusion of the study of the insanities in the five years' curriculum of study demanded of the rising generations by the General Medical Council. If teachers conduct their courses of instruction on the general principles which govern the teaching of medicine the general practitioner will soon be found treating the insanities as he does everyday disease, and we may fairly anticipate a reduction of the number of cases relegated to asylums as a consequence of early and rational treatment. I have merely touched the fringe of the subject. I may plead *inopem me copia fecit*, but if I have been able to indicate, however feebly, that the members of the psychiatric specialty are with you in all things scientific and practical the object of this address has been attained.

ROYAL SOUTH HANTS INFIRMARY. — The governors recently met to consider the question of a new wing to the infirmary in commemoration of the Queen's Diamond Jubilee. The Mayor's Fund falling short of the amount expected, Mr. W. Garton, a local resident, who had already given £1000, generously offered to pay the cost above what had been subscribed—about £5000—an offer which the governors accepted with thanks.

THE EFFECTS OF DRYING OF THE SOIL UPON THE PUBLIC HEALTH OF BUENOS AYRES.[1]

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BUENOS AYRES, the population of which at the end of 1896 exceeded 700,000 inhabitants, possesses an extensive system of sanitary works. In that year there were over 40,000 houses provided with water from the River Plate, and an equal number of houses provided with drains; the city was also provided with works destined to remove its rainfall. These sanitary works were not all constructed at the same time. Their construction was carried out in three periods, and this has made possible the appreciation of the effects produced separately by each of the several sanitary factors which were brought into activity. In this paper I shall limit myself to the study of the effects produced by only one of the factors—that which was concerned with drying the soil.

The soil of Buenos Ayres is composed of clay and sand, with great preponderance of the former. Impermeability and retention of dampness characterise this soil. Almost every year rain falls in torrents over the city. Formerly, owing to the configuration of the ground and because at that time the rainfall lacked an easy exit, Buenos Ayres was subject to continual inundations. These inundations, which remained on a soil of the nature above described, had necessarily to give rise to its perennial dampness, and the population whose houses were built upon such a soil was left exposed to the good and ill effects connected with such a condition.

Briefly, the works destined to prevent the dampness of the soil are the following. The ordinary rain-water which falls upon the houses and streets is carried, respectively by the drains of the former and the sinks of the latter, into the collecting sewers, from which it finds its way into the intercepting sewers and thence through the great sewer into the river. The torrential rainfall takes a different course. Gathered at first as the ordinary rainfall, in its way it overflows into great storm-water conduits and is thus carried directly into the River Plate in front of the city. The works began to be constructed in 1874. First the storm-water conduits, the intercepting sewers, and a fair number of collecting sewers were made, but not until 1876 and the beginning of 1877 was the first series of street sinks (817) constructed, these sinks being destined to receive the rainfall from the streets and to thus prevent inundations, giving exit to water which before had accumulated in the city. The report of Mr. Higgins, the engineer, for this last year, referring to the purpose which these sinks already filled, says: "Although in an incomplete state they have served to save the city from various inundations." The works were suspended in 1877 and were recommenced in 1883. In 1885 the number of street sinks constructed was 2685, and in the following year 1626 new ones were made. The works were once more suspended until 1889, when the construction of house drains was begun, this part of the works having continued during several years.

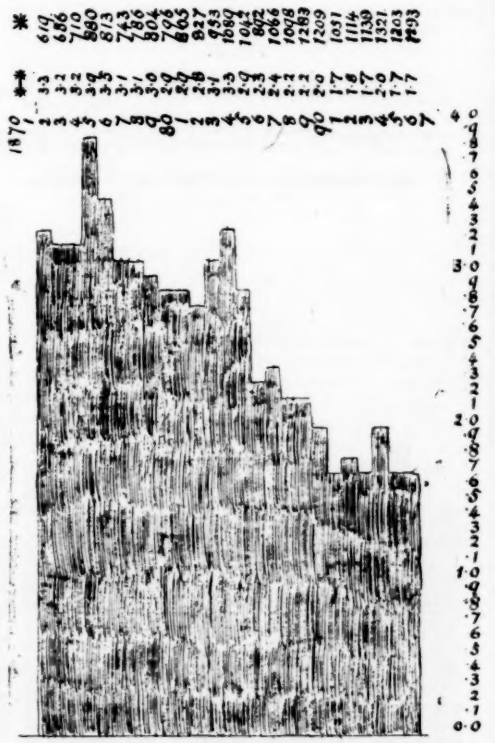
In the history of the sanitary works of Buenos Ayres there are two epochs when the works destined to carry away the rainfall came into operation—in 1876 and the commencement of 1877, when 817 sinks in communication with the sewers were constructed in the streets, and in 1885 and 1886, when respectively 2685 and 1626 more were made. The system of house drains cannot be taken as an independent factor in removing the rainfall, for formerly the rain which fell on the houses was collected partly in deposits and the rest found its way to the street; now all this rain goes into the house drains, but even if it went into the streets it would not remain stagnant as before, inasmuch as the street sinks would provide for its exit.

Tuberculosis.—Shortly after the year 1860, Dr. Buchanan in England and Dr. Bowditch in North America, almost

[1] A paper read at the International Congress of Hygiene and Demography held in Madrid in April, 1898.

at the same time and quite independently, discovered as the result of their investigations that tuberculosis is a disease of a damp soil, and that when this dampness diminishes tuberculosis decreases. The experience gained in Buenos Ayres entirely confirms the affirmations of these sanitarians, who have shown what is the most simple and efficacious means of ridding cities of one of the most potent factors in mortality. Fig. 1 marks the mortality from tuberculosis from

FIG. 1.

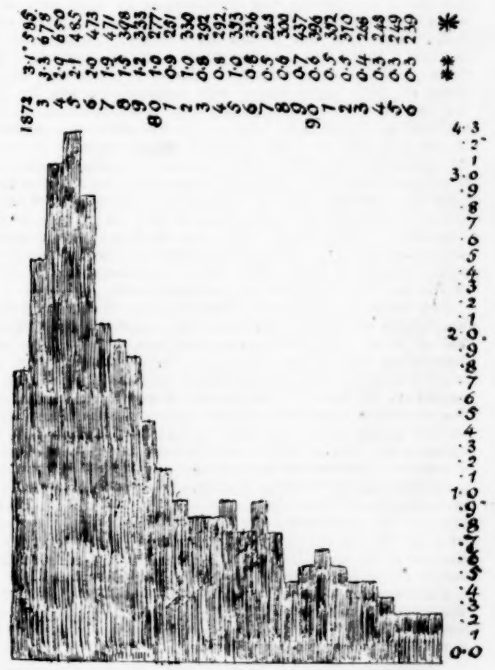


The diagram shows the prevalence of tuberculosis, pulmonary, laryngeal, and mesenteric, from the years 1872 to 1896 inclusive. The row of figures marked with an asterisk shows the absolute mortality for each year. The row marked with a double asterisk and the column to the right of the diagram show the mortality per 1000 inhabitants for each year.

1872 to 1896 calculated at so much per 1000 inhabitants. The general direction of the graphic line is one of descent, but this course is interrupted on three different occasions by elevations, a notable one in 1875 and two of lesser importance in 1884 and 1894. In this paper it is not my purpose to enter into the causes which have produced these elevations, as being foreign to the subject under discussion, but I merely wish to call attention to them so that they may be taken into account when the cause of the general descent of the line is studied, their true characters being assigned as accidental elevations in a line of general descent. The diagrammatic line belonging to 1872–73–74 marks the level of 3·3 and 3·2 per 1000 inhabitants. This represents the normal level of tuberculosis mortality in Buenos Ayres for these years. In 1875 and 1876 accidental factors caused this level to rise, and the line ascended considerably on the first of these years, and while it descended on the second it still only reached a level which was very superior to that occupied during 1872–73–74. In 1877, the factors which had produced this transitory elevation in the mortality having disappeared, the diagrammatic line descended until it occupied its former normal level and it fell even a little lower yet. In 1876 and the commencement of 1877, 817 street sinks were brought into operation, and with so much success that the engineer of the works stated in 1877 that these elements for the removal of rainfall had been the means of saving the city from several inundations. So that in 1876–77 the soil of Buenos Ayres entered into an epoch of relative dryness compared with the dampness of previous years. This relative dryness of the soil soon made itself felt in a diminution of tuberculous mortality. Already in 1877 the line had fallen, and this fall went on progressing, although slowly, until 1882. Accidental factors cause again the mortality to ascend, and in 1883 the line rises and continues to rise in 1884. These factors disappearing, the line returns to find its normal level in 1885. But that year saw the construction of 2685 street sinks, a very large number of openings destined to remove part of the rainfall which formerly stagnated in the streets. In 1886 the mortality from tuberculosis took a rapid descent. In that year the number of new street sinks was 1626. In the following year the mortality line should have undergone a further descent, but it did not; on the contrary, the graphic line was marked by an elevation, although insignificant. But in that year (1887) a law was passed extending considerably the municipal bounds, so that now large suburban areas destitute of works for the efficient removal of rainfall formed part of the city. Nevertheless, the insignificant rise in the mortality in 1887 was but transitory, for in the following year the works which had been constructed in 1885–86 reasserted their influence over the mortality from tuberculosis and the graphic line began once more to fall and continued falling until 1891, when it seems to have remained stationary, for after oscillations it always returned to the same level.

The fall in the mortality from tuberculosis in Buenos Ayres is thus related to the relative drying of the soil compared with the dampness which obtained in former years. The first works for removing the rainfall which commenced in 1876–77 produced a slow fall which lasted in a progressing scale during six years; the second and more extensive works of 1885–86 brought about a much greater fall in the same

FIG. 2.



The diagram shows the prevalence of tetanus, infantile, traumatic, and spontaneous, from the year 1872 to 1896 inclusive. The figures have the same significance as in Fig. 1.

mortality—a fall which in its progressive course has also lasted six years. The level which the mortality had reached in 1896 was that which it already occupied in 1891. Since the former year there has been no further fall, and as during these last years thousands of house drains have been brought

into operation it must be concluded that this latter sanitary factor has not exercised any beneficent influence over the march of tuberculosis and that the relative drying of the soil has been the only and great factor which has saved Buenos Ayres from its once so high tuberculous mortality.

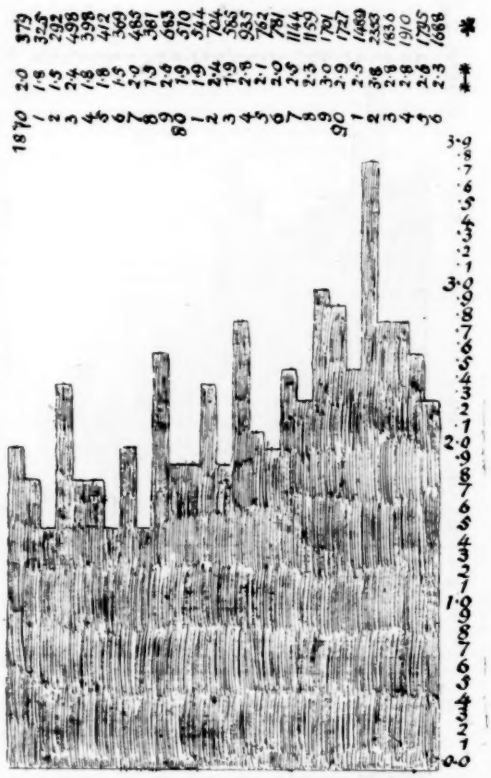
Tetanus.—Tetanus was formerly another scourge of Buenos Ayres. Fig. 2 marks the mortality from tetanus calculated at so much per 1000 inhabitants. In 1870 there was a very great inundation in the city; some persons were drowned in the streets; the cesspools filled with water and their contents flowed out and spreading over the soil polluted its surface. The mortality from tetanus, which was already high, appears to have received a great impulse from this special contamination of a damp soil, for in the following year the graphic line of mortality rose very much and this rise continued up to 1873, the descent beginning in 1874 and the line only reaching in 1877 its former level of the year 1870. It is to be noted that in the course of these years the inundations were not limited to the special one of 1870. Every year there were inundations and these served to maintain alive the flame which had been ignited by the great inundation of 1870, when the soil, besides being saturated with water, was contaminated by the contents of the cesspools which had overflowed. But already, after the first series of works destined to remove the rainfall in 1876–77, the inundations ceased to a great extent and the result of this relative drying of the soil was felt in 1878, when the line of mortality from tetanus took a sudden fall and this fall continued in a progressive sense until 1881. The line now rested at the level of 0·9 per 1000 inhabitants and this level appears to have indicated the maximum of the results obtained by the relative drying of the soil which was due to the works effected in 1876–77, for in the following year of 1882 the mortality line occupied the same position and remained there as a mean level during four years more.

The second series of works destined to remove the rainfall more completely was constructed in 1885 and 1886, when respectively 2685 and 1626 street sinks in communication with the sewers were made. Next year the mortality line from tetanus took a rapid descent. This descent, which should have continued progressively during three or four years more, was interrupted, but in 1888 the annual form of the atmospheric pressure-wave suffered oscillations which interfered with the natural ventilation of the soil, and in 1889 extensive excavations of the same in connexion with the construction of house drains were begun and the work continued for several years. When these transitory factors which interrupted the continuation of the fall of the mortality from tetanus had in great part disappeared in 1893 the mortality line reassumed its course of descent, this lasting until 1894, where the line seems to have remained, and 0·3 per 1000 inhabitants has marked the level of the mortality from tetanus in 1894–95–96.

Re-examining rapidly the graphic line of mortality from tetanus we see that when this line was seeking its former normal level after having ascended owing to a great contaminating inundation, helped by further inundations, the relative drying of the soil obtained by the works of 1876–77 caused it to descend during four consecutive years; that the mortality line then rested upon a stable level during several years, when the new works for completing the removal of the rainfall in 1885–86 caused its further descent—a descent which, although interrupted in its course through transitory factors during some years, reassumed its prolongation on the disappearance of these until in 1894 it reached the level of 0·3 per 1000 inhabitants. It is, again, to the relative drying of the soil that the population of Buenos Ayres is indebted for its marked deliverance from one of the most important factors of its mortality.

Pneumonias.—If the drying of the soil and subsoil in Buenos Ayres has resulted in a marked diminution of the mortality from tuberculosis and in a notable diminution of that from tetanus, on the other hand it has been the means of increasing the mortality from pneumonia. Fig. 3 marks the mortality of the group of pneumonias, including also broncho-pneumonias and pleuro-pneumonias. The graphic line, although subject to great oscillations, has nevertheless a direction of general ascent. The ascent does not follow a march of gradual progression, rising every one or two years; it is an ascent effected by periods of years, rising every so many years to a higher level from which it never again descends but from which it oscillates in an upward direction. Three are the levels of repose belonging to this graphic line. The first one, 1·5 per 1000 inhabitants from 1872 to 1878; the second one, 1·9 from 1879 to 1886; and the third one, 2·3 from 1887 to 1896. The first and lowest level corresponds to the time when the rainfall was allowed to remain in the city; the second and higher one to the time when the effects of the works destined to remove a good deal of the rainfall began to be felt; and the third and highest to the time when the effects of the second and more extensive series of the above works came into operation. In this group of pneumonias there are, of course, many cases which are only

FIG. 3.



The diagram shows the prevalence of pneumonia, broncho-pneumonia, and pleuro-pneumonia from the years 1870 to 1896 inclusive. The figures have the same significance as in Fig. 1.

complications of other diseases and which are altogether independent of the greater or lesser dryness of the soil, but the fact that the level of mortality of the group as a whole rises each time that a greater relative dryness of the soil is obtained is a proof that in this group there must exist a sub-group of pneumonias due to some micro-organism which resides in the soil and the development of which is favoured by a relative dryness of the same.

The experience of Buenos Ayres has permitted the study of the results obtained separately by each of the factors which have been brought into play through the construction of sanitary works. As far as the effects on tuberculosis resulting from the relative drying of an impermeable clay soil go our experience corroborates the teaching of Buchanan and Bowditch, who showed that in that dryness we possess the most formidable weapon to combat that great enemy of the human species. Touching tetanus the effects of the relative drying of the soil have been even more marked than in the case of tuberculosis. And, lastly, regarding pneumonias, the relation between the increase of this group of diseases is too evident to be ascribed to mere coincidence. Several have been the observers who in different countries have noted this relation, but their conclusions have been impugned and

sometimes with statistics which have been gathered monthly. The question is yet *sub judice*. The statistics which I adduce in this paper have the value that they cover an epoch of a quarter of a century, and they have even greater value because this epoch includes periods in which the construction of the sanitary works was carried out separately in its different elements, so that the effects of these upon the public health could easily be observed. Changes in the subsoil take place with great slowness and their effects upon the public health are likewise slow and *prolonged*. In order to study correctly the relation between subsoil and public health years and not months must cover the periods of observation.

Buenos Ayres.

DISSECTING ANEURYSM.[1]

BY JAMES B. COLEMAN, M.D. R.U.I., M.R.C.P. IREL.,
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THE term "dissecting aneurysm" is applied to cases in which a partial rupture of the inner tunics of an artery allows the blood to become diffused between the coats of the vessel. Having regard to the difference of opinion which exists as to the author of the original description of this very remarkable affection the following extract from Dr. Peacock's "Report on Cases of Dissecting Aneurysm"[2] may be of interest: "It has generally been supposed that Laennec was the first writer who applied the term 'dissecting' to this form of aneurysm, but it has been recently shown by M. Broca that M. Maunoir employed the same designation and clearly described the formation of aneurysms of this kind in his work published in 1802. A characteristic case is also related by Mr. Allan Burns in his work on 'Diseases of the Heart and Aneurysm,' published in 1809." Shekelton[3] published two cases of dissecting aneurysm in 1822, and the preparations are to be seen in the Museum of the Royal College of Surgeons in Ireland. Erichsen, in the earlier editions of his "Science and Art of Surgery," incorrectly refers to this variety of aneurysm as "originally described by Shekelton," and the use of the name "Shekelton's aneurysm" as a synonym for dissecting aneurysm is not justifiable. Dr. Peacock, in the paper to which I have already referred, collected eighty instances in which the affection appeared in well-marked form, including five cases published by Shekelton,[4] R. W. Smith,[5] Kirkpatrick,[6] Lees,[7] and MacDonnell[8] respectively, in the *Dublin Journal*. An interesting specimen was exhibited by Mr. Conolly Norman at the Pathological Section of the Academy a few months ago.

In the earlier published cases of dissecting aneurysm it was supposed that the separation of the coats of the artery took place between the middle and external tunic; but modern pathologists agree that the blood almost invariably makes its way between the laminæ of the middle coat, so that the outer wall of the aneurysm is formed of the outer strata of media together with the adventitia. In the vast majority of cases the rupture of the inner tunics is due to their excessive lacerability—the result of atheromatous degeneration. Indeed, out of 60 of Peacock's cases the arteries were found healthy in only two instances. Ziegler[9] suggests that in the rare absence of morbid changes in the coats of the vessels, traumatic injury to, or defective development of, the vessel-wall is the primary cause of the lesion, and Walshe[10] mentions two cases in which dissection of the aortic coats on a limited scale had been abruptly effected as the result of railway concussion. On the other hand, Rokitansky[11] supposes that in some cases a morbid condition of the external coat deprives the inner coats of support and so predisposes to their rupture.

Dissecting aneurysm is practically confined to the aorta and its large branches, although Ziegler[12] states—on what authority I do not know—that the small arteries of the brain are a usual seat of the affection. The internal rupture is usually situated at the origin of the aorta or in the ascending aorta—it was so in 55 out of 73 of Peacock's cases—but it has been found as low as the end of the abdominal aorta, as happened in Shekelton's cases. The direction of the internal rupture is generally transverse when it is near the aortic valves, whilst it is more frequently vertical at the beginning of the descending aorta. Ordinarily the arterial coats are torn asunder over from one-half to two-thirds of the circumference of the aorta, although the separation of the tunics occasionally extends completely around the vessel. The longitudinal extent of the separation of the tunics varies considerably; as a rule the aneurysm is limited to the ascending aorta, but it is occasionally found to extend beyond the iliac arteries. In my case the separation of the coats begins at the arch and ends in the left femoral, and in a very remarkable case recorded by Tessier[13] the separation extended from the commencement of the ascending aorta to the left popliteal artery. The dissection not unfrequently is carried along the primary branches of the aorta. For instance, in MacDonnell's and Tessier's cases it extended through the innominate artery and its branches to the internal carotid; in another case[14] it followed the course of the coronary arteries; in Laennec's case[15] it passed along the cœliac artery and in my case into the right renal artery. Some of the intercostal and lumbar arteries are frequently found to be cut across by the stream of blood, "so that a probe introduced into the aortic orifice of one of those little branches passes directly into the aneurysmal canal and traverses this before entering the artery itself, which thus appears to arise directly from the aneurysm."[16]

In cases which have ended fatally within a short time there has been only a single opening leading from the aorta into the arterial coats, death having been usually due to the subsequent giving way of the external wall of the sac. This is the common form, comprising 73 out of Peacock's 80 cases; my case is also an instance of it. On the other hand, when life is prolonged for any considerable time the blood is found to have forced its way from the sub-adventitious sac back again to the blood-stream at some point farther on in the course of the vessel. In such chronic cases—of which Shekelton's and Fagge's cases were examples—the new blood-channel acquires an endothelial lining. The disease is specially common in persons of advanced age, and though it probably occurs more frequently in men than in women there is not the excessive preponderance in males which is the rule in ordinary aneurysms. Indeed, some writers say that it is more common in women. The case which I now relate, and the specimen which I exhibited, typically exemplify the symptoms and pathology of the early stage of the fully formed dissecting aneurysm.

CASE 1.—A man, aged sixty-five years, was admitted to the Whitworth Hospital under my care on Jan. 13th, 1898, complaining of severe pain in his back and of loss of power in his legs. On the morning of his admission to hospital he was on a ladder engaged in papering a room when he was suddenly seized with a violent pain in the lower part of his back and in his left hip. The pain appeared to start from his lumbar region and to shoot up into his chest and down to his left thigh. It was so intense that (to use his own expression) he "bellowed with agony." He felt faint but did not lose consciousness and he was able to walk across the room with difficulty to a chair. Within a quarter of an hour his lower extremities were completely paralysed and his left leg was anæsthetic. He was removed to hospital in a few hours. Beyond the fact that he was a painter there was nothing noteworthy in his personal history and he came of a healthy family. On admission to hospital he was found to be a well-nourished, grey-haired old man, rather anæmic. He was unable to walk but he could move his legs slightly. He still suffered from severe pain in his back, but he had already recovered sensation in his left leg. Everything he ate or drank was vomited. His arteries, in which there was visible pulsation, were atheromatous and his pulse was high-tensioned. The heart was hypertrophied; no murmurs could be detected, but the aortic second sound was accentuated. He was carefully examined for aneurysm with a negative result. Pulsation could be felt in both of his femoral arteries. There was marked arcus senilis and his gums showed a "lead line." His urine was feebly alkaline, of specific gravity 1014, clear, contained 0·2 per cent. albumin, and a few hyaline and granular casts; neither sugar nor blood was present; the quantity of urine passed was about

[1] A paper read in the Section of Medicine of the Royal Academy of Medicine in Ireland on May 20th, 1898.
[2] Transactions of the Pathological Society of London, vol. xiv., 1863.
[3] Dublin Hospital Reports, vol. iii., 1822.
[4] Ibid.
[5] Dublin Journal of Medical Science, vol. ix. 1836.
[6] Ibid., vol. xxiv., 1844.
[7] Ibid., vol. xxv., 1844.
[8] Ibid., vol. xxvi., 1845.
[9] Ziegler: Special Pathological Anatomy.
[10] Walshe: Diseases of the Heart.
[11] Rokitansky: Manual of Pathological Anatomy. Sydenham Society's Transactions, vol. iv., 1852.
[12] Ziegler: loc. cit.
[13] Giornale della Scienza Mediche, 1842.
[14] Boyd: THE LANCET, vol. i., 1840-41.
[15] Laennec: Traité de l'Auscultation médiate, deuxième édition, 1826.
[16] Fagge: Transactions of the Royal Medical and Chirurgical Society, vol. lii.

the average amount. He had control over the sphincters of the bladder and rectum. The knee-jerks and plantar reflexes were lost. The pain in his back ceased after twelve hours and next day he felt much better and he was able to move his legs freely. On the following morning he was able to walk a few steps and he expressed himself as feeling almost quite well. At this period I showed him to the hospital class and I diagnosed the case as plumbism and chronic interstitial nephritis, with the usual cardio-vascular changes. I pointed out that the history of the attack clearly indicated some vascular lesion of the spinal cord, and the sudden onset, wide diffusion, and intensity of the pain, together with the transient duration of the paraplegia, appeared to justify the further diagnosis of spinal meningeal hæmorrhage. The patient was apparently well about 4 o'clock in the afternoon, when he took a drink of milk. Five minutes afterwards the nurse found him dead in his bed. His death occurred about fifty-two hours subsequent to the onset of the symptoms.

The post-mortem examination, which was made within 24 hours of his death, showed the right pleural cavity to be filled with blood. The pericardium contained a little clear serous fluid. The heart was rather large, there being hypertrophy of the left ventricle. The arch and upper part of the descending aorta was distended and formed a tumour-like mass, from which the blood had escaped into the right pleura. On opening the aorta its inner aspect was covered with atheromatous plaques, and a dissecting aneurysm extended from the arch at the level of the innominate artery and terminated in the left femoral artery about an inch below Poupart's ligament. A large mass of freshly-coagulated blood was effused between the tunics at the level of the arch and in the upper portion of the descending thoracic aorta, and here the separation of the tunics took place around nearly the whole circumference of the vessel wall. From the abdominal aorta through the left common iliac, external iliac, and femoral artery the coats of the vessels were separated by a thin layer of coagulum, but no palpable thickening of the arteries was so produced. In the lower part of the aneurysm the dissection of the arterial coats did not extend much more than halfway around the circumference of the vessels.

The microscopic sections, which I exhibited, were from the left common iliac artery, and they showed that the blood was effused in the substance of the middle tunic of the artery, so that the external wall of the aneurysmal canal was composed of the outer muscular strata of the media together with the adventitia. The dissection was carried along the coats of the right renal artery, the lumen of which was also occluded by a thrombus. The lumbar arteries were cut across and their orifices likewise contained thrombi. A large coagulum was adherent to the posterior wall of the aorta at the level of the renal and lumbar arteries. The external rupture of the aneurysm was situated about the middle of the thoracic aorta on its posterior aspect. The rupture was an ill-defined, oblique slit, about half an inch long, from which the blood had forced its way through the connective tissue into the right pleura. I have not been able to satisfy myself as to the position of the internal rupture. It might have occurred two or three inches from the termination of the abdominal aorta, for the atheromatous changes were most intense in that position, or possibly it took place at the origin of one of the primary branches of the aorta. Both kidneys were cirrhotic, the right one being, in addition, cystic and extremely engorged with blood. Microscopic sections of this kidney (prepared by Dr. Dargan in Dr. McWeeney's laboratory) showed that it was in a condition of universal hæmorrhagic infarction. There was no hæmorrhage in the spinal cord or its membranes. In the light of the necropsy it was not difficult to account for the symptoms of this case. As predisposing causes of dissecting aneurysm my patient had extensive atheroma of the inner coats of his aorta, which were consequently unduly lacerable and in addition he had hypertrophy of the left ventricle with high arterial tension. The intense pain at onset of the symptoms was due to the primary rupture and separation of the coats of the aorta by the blood; the paraplegia was caused by the interference with the arterial supply to the lumbar enlargement of the cord, partly from thrombosis, and partly from rupture of the lumbar arteries; the sudden death ensued on the rupture of the external wall of the aneurysm and the consequent escape of blood into the right pleura. It is rather remarkable that his urine contained no blood and that the amount passed was not noticeably diminished, for the right kidney was engorged with blood and its secretion must have been completely arrested.

Other cases of dissecting aneurysm have been recorded in which a remarkable series of symptoms was due to arrest of vascular supply to the brain, kidneys, or cord. Tessier's[17] patient died with the symptoms of apoplexy and a dissecting aneurysm was found extending from the arch of the aorta along the innominate artery and its branches to the internal carotid. Todd's[18] case was characterised by hemiplegia and transient suppression of urine, and the post-mortem examination showed softening of the brain due to obstruction in the carotids, and it is probable that there was also obstruction in the renal arteries. Sainet[19] records a case in which the patient became rapidly paraplegic. Latham and Swaine's[20] case was diagnosed during life. The patient was suddenly seized with "agonising" pain in his chest followed by paraplegia. In Dickenson's[21] case a policeman, after seven hours on his beat, was seized with loss of power over his lower extremities, followed by pain and collapse. Death took place within twenty-four hours. Where the symptoms are liable to such variations it is evident that the diagnosis of dissecting aneurysm must always be difficult and uncertain.

In reference to treatment Walshe[22] somewhat cynically remarks: "Were the practitioner fortunate enough to divine the occurrence of acute separation of the coats of the aorta it does not appear that in the present state of our knowledge the management of the case would be materially improved by his sagacity. Did he fail to diagnose the occurrence his aim would be to restore the patient from the first shock of the accident, control excited arterial action, and relieve symptoms as they arose. And it does not appear that art could do more than this were the anatomical nature of the affection understood from the first."

Dublin.

[17] Giornale della Scienza Mediche, 1842.
[18] Transactions of the Royal Medical and Chirurgical Society vol. xxvii., 1844.
[19] Bulletin de la Société Anatomique, 26me Année, 1851.
[20] Transactions of the Pathological Society of London, vol. vii., 1855.
[21] Ibid., vol. xiii., 1861.
[22] Walshe: Diseases of the Heart.

ON A MODE OF STRETCHING SOME URETHRAL STRICTURES.

BY REGINALD HARRISON, F.R.C.S. ENG.,
SURGEON TO ST. PETER'S HOSPITAL.

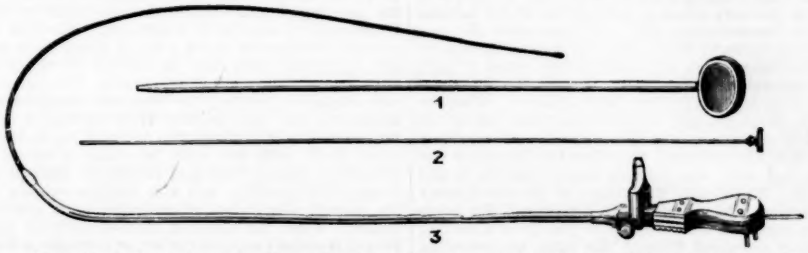
IN some remarks on urethral stricture previously published[1] I have referred more particularly to its treatment by dilatation and by certain forms of urethrotomy or section. I have also described some instruments I usually employ with these processes. In an obstructive disease which presents so much structural variety cases are occasionally met with where, either from the urgency of the symptoms or the nature of the stricture, it will be found impossible to utilise these methods and modifications of them may be substituted with advantage.

The rarer cases of advanced stricture to which I am now referring usually owe their urgency to being complicated with some degree of retention of urine which also calls for surgical aid. A man of middle age, I will say, has been suffering from a neglected stricture for some months or years. Eventually he is either suddenly seized with inability to pass urine at all or he becomes seriously inconvenienced by the increased tension of a never emptied bladder. Let it be assumed that the stricture is so hard, contracted, or tortuous as to resist hot baths, opium, and catheterism with all forms of flexible instruments, and access to the bladder can only be effected by a fine metallic catheter. Possibly this even may require the aid of an anæsthetic. If such a catheter is tied in it not unfrequently slips out during the night and all the trouble of replacing it or substituting a somewhat larger one has to be repeated and not always with success. Even if it is retained it may not be possible to substitute a larger one and thus the progress of the case in giving increased relief to the patient is either hindered or proves impossible. Nor is the retention of a fine catheter, such as No. 1, 2, or 3, in a septic bladder to be desired, even though some relief to tension is afforded, any more than a drainage tube which will not drain is of service with a putrid abscess. Unless the relief is sufficient in either case sepsis is sure to follow if it has not already commenced. With a small catheter such as those I have referred to it is impossible to wash out and disinfect the bladder, and puncture or any forms of cystotomy or urethrotomy are not always advisable under these circumstances. It is in cases of this type, when the surgeon has succeeded in passing a small metallic catheter through a tight and difficult stricture into a more or less distended bladder, that the inability to expand the instrument at the same time, and so to stretch the stricture before withdrawing it, is not unfrequently experienced. With this object in view I described some years ago an instrument constructed on the lines of a Holt's dilator which appeared to meet the difficulty, and I have since continued to use it with advantage. It is provided with a pilot guide as well as with a screw top in case the former proves useless. It contains a fine test catheter on which the dilators run. It is fitted with a series of seven rods by which dilatation may be carried from a No. 3 to a No. 12 (English gauge), and the introduction of the latter is controlled by a spiral spring which consolidates the instrument and makes it act as one piece. On the dilator being passed, as an equivalent to a No. 3 catheter, the stylet is withdrawn and the correct position of the instrument is judged of by its transmitting urine and from its position relative to the rectum. Then the introduction of the dilating rods in accordance with their number and size is

[1] THE LANCET, April 23rd and June 11th, 1898.

proceeded with whilst the anæsthetic is continued. This is to be done deliberately so as to stretch and not to lacerate the stricture, the process usually lasting, according to the rigidity of the contraction, from about ten to twenty minutes. When the largest rod is reached the fully distended instrument, now representing No. 12 in calibre, is quietly withdrawn and the urine that remains is drawn off by a full-sized silver catheter, which may be passed easily. The bladder is then washed out and disinfected and a soft catheter is tied in and retained for forty-eight hours or so. As the process is one of stretching alone rigors or fever rarely follow.

The subsequent management of the case merely consists in instructing the patient how and when to pass a bougie for himself and so to endeavour to permanently maintain the normal dimensions of his urethra. It is hardly necessary to illustrate the kind of case to which this treatment is applicable, as it will readily occur to those who have had any practical experience of them. In proceeding to adopt it the only drawback which is likely to happen is the case proving, on trial with an anæsthetic, to be an impassable stricture. Under such circumstances Wheelhouse's perineal operation would probably be selected as the alternative. Where, however, the dilator can be passed in the manner I have endeavoured to describe both patient and practitioner will be none the worse for knowing that the retention of urine has been relieved in such a way as will permit the introduction of a full-sized catheter into the bladder.



Figures illustrating instrument, made by Messrs. Krohne and Sesemann. 1, A dilating rod. 2, Catheter stylet. 3, Dilator.

Lower Berkeley-street, W.

ON A MODIFICATION OF MR. COXONS' METHOD OF PROLONGING NITROUS OXIDE ANÆSTHESIA DURING DENTAL OPERATIONS—

NAMELY, BY MEANS OF A MOUTH TUBE AND CLOSURE OF THE NARES.

BY W. J. McCARDIE, B.A., M.B., B.C. CANTAB.,
ANÆSTHETIST TO THE GENERAL HOSPITAL AND TO THE DENTAL HOSPITAL, BIRMINGHAM.

THE recent endeavours to prolong nitrous oxide anæsthesia for the purposes of dental surgery by means of a mouth-tube, nasal catheter, or nose-piece have all tended to supply a very distinct need—viz., an anæsthesia longer than the usual one of about half a minute and perhaps not so long a one as that obtained so easily and safely by the administration of nitrous oxide followed by ether.

I believe that for all lengthy or severe dental operations, especially in cases where numerous teeth or many bad stumps have to be extracted or in cases in which the patient is very young or old or in feeble health and the operation is of more than ordinary severity, three or four full breaths of nitrous oxide followed by a short inhalation of ether is by far the best method of anæsthetisation, for the shock during and after operation is in these cases less than that occurring during or after the administration of gas. The delayed return of consciousness is often of distinct advantage to both the operator and the patient, and the anæsthetist is left with a freer hand to help the dentist, who for his part can with confidence reckon on having plenty of time and is not embarrassed perhaps with anæsthetic appliances.

Last winter, at a meeting of the Society of Anæsthetists, Mr. Coxon, L.D.S., of Wisbech, demonstrated his apparatus for the prolongation of nitrous oxide anæsthesia. It consisted essentially of a mouth-tube made of hard metal with a diameter of about half an inch, at one end nearly half curved and at the other made to fit in the place of the face-piece and stopcock of an ordinary gas apparatus. Mr. Coxon warmed the gas before use by passing it through a metal coil immersed in hot water and interposed between the gas cylinders and the gas bag. In administration the patient was in the usual way put fully under the influence of nitrous oxide, then the face-piece was rapidly replaced by the oral tube, which was inserted into the mouth in such a way that it rested on the back of the tongue, and the free end was in the pharynx pointing towards the side of that cavity. The anæsthetist had of course to keep the tube out of the way of the operator and to arrange that a copious stream of gas was delivered from a fully-distended gas bag and passed on to the pharynx beyond the region involved in the operation and also beyond any collection of blood in the mouth. Mr. Coxon stated that he had often used this method of his devising and had had exceedingly good results from it.

I was much interested in his demonstration and had a metal tube like his made for me, but not regarding the warming of the gas as of importance in short operations at any rate, even if it be so in long operations, which I think doubtful, I made trial of the method without using any heating apparatus on many patients at the Birmingham Dental Hospital. As I preferred to keep the fullest command of the head and jaws and had to manipulate the gag I asked Mr. Thompson Madin, L.D.S., surgeon to the hospital, to kindly insert the mouth-tube for me and take charge of the gas-bag while I controlled the anæsthesia by means of the gas-supply.

The first few cases of trial were not very successful, but we soon became more proficient, and after a little time the great difficulty—that of inserting the tube to the back of the mouth and at the same time keeping it out of the way of the operator, especially in cases where the mouth was small—was dexterously overcome. We found that a central gag—e.g., Brunton's—wherever it could be used was the best. The gas-bag had generally to be kept fully distended and in the case of strong patients even had to be compressed between the arm and side of the body to increase the delivery pressure. It will be seen that a good deal of gas had to be used, for it escaped both by the mouth and the nose. I constantly for some months used this method in cases which needed a longer administration than usual and had a large measure of success. In many instances the duration of the anæsthesia was only determined by the conclusion of the operation. As the extractions were performed by students much longer periods of anæsthesia than usual were sometimes necessary and times of from one to four minutes were recorded without any untoward present or after-effects being noticed except that giddiness lasted perhaps a little time longer than after the ordinary sitting. I judged of the degree of anæsthesia chiefly by the colour of the face, managing the supply of gas so that the patient's lips were kept slightly cyanosed and the breathing rather snoring in character. After the above method had been in use for a few months Mr. Madin ingeniously thought of the modification of closing the nasal passages in order to prevent the escape of nitrous oxide and to limit air entry. After closing the nose by manual pressure he proposed to pass the tube just inside the mouth at a corner and to keep it full of gas by using only a moderate pressure. He himself made trial of this plan with perfect success. As the closure of the nostrils by digital compression

allows only one hand to be free I had a small nasal clamp made which might be fixed immediately after removal of the face-piece.

This modification of Mr. Coxon's method has been even more successful in our hands than the original plan, and with Mr. Madin's kind help I demonstrated its application at the annual meeting of the Central Counties Branch of the British Dental Association, held at Worcester on July 9th, Mr. Surman of that city being good enough to find a suitable patient. This demonstration very well illustrated the prolongation of anæsthesia by this modified method. The subject, a woman of ordinary type and about thirty years of age, needed the removal of eleven teeth, nine in the upper and two in the lower jaw, including many stumps. After the insertion of a Brunton's gag between the jaws and in the middle line full anæsthesia was induced in the ordinary way by means of Hewitt's apparatus, and when the face-piece was removed the oral tube was quickly substituted for it and inserted by Mr. Madin into the corner of the mouth away from the operator, while I manually compressed the nares and allowed a stream of nitrous oxide to pass from a gas-bag kept moderately distended through the tube, endeavouring to merely keep the mouth full of the gas. An uninterrupted and perfect anæsthesia was obtained, characterised by slight cyanosis of the face and lips and by quietly snoring breathing. The mouth tube was so well manipulated that it did not at all embarrass Mr. Malcolm Knott, the dental surgeon, who was operating with deliberation, especially in the extraction of the last few teeth. The duration of operation was two and a half minutes, and after it had been finished the anæsthesia was prolonged for another half-minute for the purpose of further demonstrating the ease of maintaining it as long as might be necessary. During the latter part of the operation the Brunton's gag was changed for that of Mason. The operator would have done very well indeed to have extracted all the teeth in two ordinary sittings for gas.

This was a most successful case for a demonstration, the patient being well under throughout without movement of any kind, slightly cyanosed as regards colour, her breathing being easy and rather snoring in character. The operator was very pleased with the result. Recovery of the patient was extremely rapid and not marked by any untoward symptom—indeed, was exactly like that after the usual half-minute anæsthesia. The quantity of nitrous oxide used was about 48 gallons and supposing that 8 gallons (which is perhaps a little above the average for an adult) were used in inducing full narcosis, then only 8 gallons were used for each extra half-minute of anæsthesia, a quantity which is considerably less than that used in the same time by Mr. Coxon's original method. For, supposing the nasal passages to remain open and manipulation to be going on in the mouth, there is a tendency for the patient, even in the case of mouth-breathers, to breathe wholly through the nose and the inhaled nitrous oxide is very largely diluted with air in the pharynx, while during expiration and the pause between expiration and the following inspiration there is free vent through the nares for the escape of the gas as well as of air. If the nostrils be blocked much gas is obviously saved, and as possibly some reflex hindrance (induced by the oral interference) to free respiration still exists, the breathing is for a short time at any rate quieter and less frequent, and if the mouth be simply kept full of nitrous oxide it can well be effected that enough gas is inhaled to maintain full anæsthesia, while it is diluted with a not too large quantity of air.

In suitable cases the duration of the anæsthesia may be determined only by the conclusion of operative interference. Where it is possible digital has an advantage over instrumental compression of the nares, in that it gives one more command over the head and can be applied very easily at any period of the anæsthesia, while it is sometimes difficult to quickly apply or reapply a clamp with one hand. One or two chief points for guidance in the use of this modified method have already been indicated, but the last and not the least remains to be noted and concerns the question of an assistant to the anæsthetist. In any dental operation where more than a few teeth have to be extracted under gas in the ordinary way a dexterous speed is necessary on the part of the operator, and it is often advisable for him to have an assistant who shall help him in the matter of sponging, handing instruments, &c., but if this method of prolonging anæsthesia be adopted the operator can take his time and do his own sponging and the assistant (if only three persons besides the patient be present) may help the anæsthetist, for it is a very great advantage to have some one to change the face-piece for the mouth-tube and if skilled to insert and manage the tube while the administrator concerns himself with more serious matters, such as the condition of the patient and degree of anæsthesia, the command of the head and jaws, the manipulation of the gag, the closure of the nares, the gas-supply, and watches that no blood or foreign bodies be allowed to remain in the mouth. The tube I use has an internal diameter of about ¼ in., is made to fit my Hewitt's gas apparatus, and can be carried in the pocket. The advantages of the method are obvious. It is extremely simple and adaptable, needing no cumbrous, complicated, or novel apparatus, and can be effectively applied to probably the large majority of patients who can take gas in the usual way, doing away with the need for many a second sitting for extraction, saving time and trouble to both patient, anæsthetist, and operator, and also perhaps sparing the patient the mental discomfort of anticipating a second administration. I use the modified method in most cases (at the Dental Hospital) requiring a longer anæsthesia than usual.

The disadvantage of the method is that it needs some practice on the part of the anæsthetist and also on the part of the assistant, if one be present, to successfully keep the tube out of the way of the operator. I do not think, as I said earlier, that for really long or severe dental operations the original method of Mr. Coxon or this modified one will or ought to replace the administration of gas and ether, but both should hold a place midway between the ordinary gas inhalation on the one hand and the use of gas followed by ether on the other.

Birmingham.

THE DIAGNOSIS OF HYSTERO-EPILEPSY FROM STATUS EPILEPTICUS.

BY WILFRED R. KINGDON, B.S., M.B. DURH.,

RESIDENT MEDICAL OFFICER OF THE TICKHURST ASYLUM, SUSSEX; LATE ASSISTANT MEDICAL OFFICER TO THE MALE SIDE OF THE BIRMINGHAM CITY ASYLUM.

WE are indebted to French writers, and especially to Professor Charcot, for the more important descriptions of hystero-epilepsy; indeed, the condition appears to be much more frequently found on the continent than in England. When met with in the Anglo-Saxon race this disease seems to be not infrequently of such a type as to be easily mistaken for status epilepticus by those who are unaccustomed to see epilepsy in its severer forms, and for this reason I venture to think that some short account of two cases which it has been my fortune to see during the past two years will not be altogether without interest.

CASE 1.—About sixteen months ago I saw a young woman, seventeen years of age, who was supposed to suffer from epilepsy and who had had that morning what was said to be "status." She was of a highly neurotic family, two or three relatives were described as "hysterical," and, if I remember rightly, a grandfather had attempted his life and ended his days in a lunatic asylum. The patient had been what some would call "over-educated," but which I would prefer to describe as improperly educated—in fact, "crammed." I elicited after some difficulty the following facts concerning the "status" which was said to have taken place. She had been melancholy for a day or two and that morning had complained of pain in the left iliac region and great tenderness when the part was palpated. A feeling of suffocation ushered in the actual attack, followed by fixation of the pupils and then a well-marked tonic stage. The clonic stage was less marked and gradually passed into a condition of violent gesticulations combined with attempts to strike her head and injure those around her. This would continue until apparently she was thoroughly exhausted and then she would gradually become quiet and pass into another convulsion. The patient had been taking at one time and another bromides and the *dragées antinerveuses de gélineau*, but without, it seemed, much result.

The fact of the tongue not having been bitten, the kind of movements (as though with a purpose or object), the struggling with those who were restraining her, the length of each fit, the "something rising in her throat" which she described, and, last of all, the absence of any good result from

the treatment of her previous condition led me to believe this to be a case of hystero-epilepsy.

CASE 2.—The patient was a neurotic-looking woman, twenty-two years of age, recently married, who had been weakened by an attack of influenza a short time before. During her school days she had had two or three "fits" of some kind, this being, so far as I could gather, when she was about the age of puberty. It was after a hard day's sight-seeing at Versailles—a lot of the time having been devoted to looking at pictures—that the attack came on. She had gone to her room thoroughly worn out to get ready for dinner when she felt tremulous and very nervous, even going so far as to say that she had a feeling that "something dreadful" was going to happen. She sat down to rest a few moments, but had not been on the chair more than two or three minutes when with a shriek she fell on the floor and was seen to be convulsed. When I saw the patient she had had one fit and another was just commencing. The tonic stage was well marked, the back and legs were extremely rigid, and the former was slightly arched. The pupils were dilated and fixed. This lasted for about 25 seconds and then the face began to twitch, the eyelids began to open and shut rapidly, and the to-and-fro movements of the arms and legs quickly followed. Frothy saliva escaped from the mouth, but was unmixed with blood and the face was but slightly livid. For about half a minute these movements were quite epileptic in character, just to-and-fro movements without aim or object, but gradually they began to lose this characteristic, she began to strike her head violently on the pillow as though she wished to injure herself, and she kicked out at us and attempted to bite our hands. She would pause in the midst of all this and remain quite still with her head a little on one side, as though listening (evidently aural hallucinations were present) and then become violent again. The duration of this stage varied from 15 to 25 minutes and then the patient would become quiet and remain in a semi-conscious exhausted condition for a few moments, when the cycle would begin again. All the fits were much alike; the only thing of note was that on one occasion, and one only, was there marked opisthotonos. I administered a hypodermic injection of hyoscine hydrobromate ($\frac{1}{75}$ gr.), which caused the fits to cease and produced five hours' sleep. On awaking the patient was very emotional and far from well, but there was no return of the fits; her tongue had not been bitten and she spoke of having been "choked with something"—evidently "globus."

Hyoscine, we know, is most useful in cases of status epilepticus and in the convulsions associated with general paralysis of the insane; it appears to be of service also in this condition of hystero-epilepsy, and certainly it is much less tedious than the old chloroform method.

Ticehurst.

A CASE OF PACHYDERMIA (VIRCHOW).

BY E. M. LIGHT, M.A., M.B. CANTAB.

THE patient, a man, aged fifty-one years, consulted me in 1895 for a pain on the left side of the throat on swallowing his saliva—nothing else and no pain at any other time. The present symptom had lasted for three months and he gave a history of the same trouble two years previously. He had never noticed the presence of blood in his saliva. He was especially anxious to have the existing condition of his throat cleared up as his father and an uncle had died from cancer. For the last twenty-five years he had suffered from asthma which was worse in autumn, and on inquiry I found that his mother had suffered equally from the same complaint. He weighed 10st. 9lb. and had not lost flesh. On examination with the laryngoscope there was to be seen a distinct ulceration, owing to the break-down of the thickened parts, on the processus vocalis of the left vocal cord, completely corresponding to where he felt the pain and inconvenience. The neighbourhood of the spot was considerably congested. I advised him independently to see Sir Felix Semon, which he did, by whose kindness I received a letter verifying the above condition of the left vocal cord, enclosing a sketch, and stating the case to be one of pachydermia (Virchow). How the patient came by this rather rare affection it was impossible to say, as he lived quietly in the country, was not a great talker, and was moderate in what he drank as in everything else. No local treatment was advised except applications of cold externally (cold compresses at night) and sucking of ice, in order not to irritate still further the part. The importance of resting the voice and of the avoidance of irritants (dust, stale tobacco smoke, hot and peppered food and drinks, &c.) was impressed upon him. Internally, iodide of potassium in 5-grain doses three times a day was prescribed for some time. In about three weeks he wrote to say that his throat was better and the irritation less, but that the medicine gave headache, so the dose was reduced to twice daily. Three weeks later he again wrote to say that he had no pain in the throat and felt quite well. He was advised to continue the iodide of potassium and after another period of six weeks he was again seen by Sir Felix Semon and myself and was pronounced cured. He is alive and well at the present time and has had no return of the affection.

This case is interesting from many points of view. A certain number of authorities, Schrötter among them, deny that a simple chronic laryngitis is ever capable of causing ulceration of the mucous membrane, its presence denoting the existence of specific lesions, tuberculous or syphilitic, and that when one sees lesions apparently ulcerative it is in reality a desquamated mass of epithelial cells or of mucus, without loss of subjacent substance. On the contrary, Störk, Schnitzler, and Heryng[1] consider the existence of "catarrhal" ulcerations as an absolutely undeniable fact. Virchow has confirmed this opinion, his term "erosive" ulcerations denoting a number of simple erosions, as there is never extensive and deep loss of substance. Again, the clearness of outline of the ulcerations, the intense redness of the limiting mucous membrane, the raised appearance of the surface, the seat of the erosions on the internal surface of the cords, the absence of any previous localised infiltration, with the existence of an interarytenoid desquamation with irregular outlines, lead one to consider that the condition is not of bacillary origin, and the spontaneous cure of the erosions confirms this view.

According to Virchow pachydermia is only a chronic inflammation of the mucous membrane of the larynx, a lesion resulting either from a simple catarrh, tubercle, syphilis, or early cancer. The "diffuse" form of pachydermia is especially associated with abuse of alcohol or tobacco, the excessive use of the voice in the open air, or exposure to the inhalation of various forms of dust, while the nodular form is more closely associated with children, women of middle age employed as teachers, actresses, singers, or girls who have been badly taught to sing, and rarely with men.

The nature of the laryngeal affection indicated by the aspect, disposition, and seat of the lesions; the course of events, age, sex, and mode of life of the patient; and the state of the nasal fossæ and pharynx, &c., help to fix a diagnosis. The affection, though chronic and progressive and often rebellious to treatment, is curable, but often enough when one side gets better the other becomes affected.

Wilton-place, S.W.

NOTE ON A MODIFICATION OF THE WEIGERT-PAL METHOD FOR PARAFFIN SECTIONS.

BY E. E. LASLETT, M.B. VICT., B.SC. LOND.,
HOUSE SURGEON TO THE LIVERPOOL ROYAL INFIRMARY.

So far as I am aware no mode of procedure has yet been published by which the Weigert staining method for nervous tissues can be applied to paraffin sections. For some time attempts were made to apply the method which is known in Schäfer's Histology as the Weigert-Pal process to paraffin sections by first fixing them on a slide and, after removal of the paraffin in the usual way, treating with Marchi's solution, followed by the acetic acid hæmatoxylin. This method was found to be unsatisfactory, as, although the nerve fibres were marked out in a more or less definite way, it was seen on close examination that they did not really stain in "ring fashion" at all. In sections stained

[1] Heryng: Revue de Laryngologie, 1er Mai, 1885. Schnitzler: Congrès International de Laryngologie de Paris, 1889.

by the Weigert method it is the medullary sheath which should be picked out, appearing in cross section as a black ring, whereas in the sections treated as above it was practically the axis cylinder only which retained the hæmatoxylin after differentiation.

The following method was next tried and it has proved an efficient and trustworthy one. The material—spinal cord, medulla, or other tissue—is hardened for about a fortnight in Müller's fluid and then cut into slices which should not be more than about 2 mm. in thickness. These are placed in Marchi's fluid for a week, washed, and embedded in paraffin in the usual way. Thin sections are cut, fixed on the slide by the warm water method, and then after removal of the paraffin placed in the acetic acid hæmatoxylin overnight, preferably in a warm oven, the heat materially hastening the process of staining. After washing they may be passed into a saturated solution of sodium or lithium carbonate, by which the colour is changed to a bluish black. They are then differentiated by the Pal method, in which process it is advisable to use weak solutions, watching the progress of the change carefully lest the sections, which are very thin, become too much decolourised.

The advantages of the above method are (1) that it is a combination of the Marchi and Weigert methods and is therefore applicable to pathological nervous tissues in all stages of alteration and (2) that it offers the advantages of paraffin over celloidin as an embedding material, the chief one of which is the extreme thinness of section attainable. In thin sections stained as above the fine medullated fibres of the grey matter show a double contour quite plainly. Hence it should be easy to trace the course of degenerating fibres in the grey matter itself, the regular double contour being then broken up in the characteristic way into black staining droplets of myelin. Provided that the pieces placed in the Marchi's solution are not more than 2 mm. in thickness, sections of the human medulla may be quite successfully stained in this way. Professor Sherrington has very kindly examined my specimens, and he considers the method likely to prove a useful one.

Bolton.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

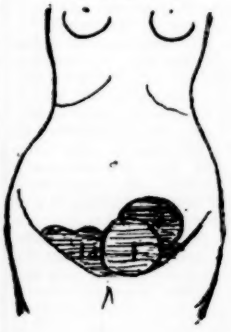
PREGNANCY SIMULATING PEDUNCULATED FIBROID.

BY E. PAGET THURSTAN, M.D., B.A. CANTAB., M.R.C.S. ENG.

I WAS asked on May 20th, 1898, to assist my friend Dr. J. A. Haynes of Perth, Western Australia, to examine a patient under chloroform to ascertain if she were pregnant. The patient, a married woman, who believed herself to be four months pregnant, had had a vaginal discharge with only intervals of a week or ten days ever since the supposed pregnancy began. She came seeking relief from severe pain in the back and in the groins, as well as to relieve her mind of a doubt as to whether she was pregnant or whether she had a tumour. She had milk in her breasts but had had no morning sickness. There were no signs of quickening nor could the fœtal heart or any placental bruit be heard. On palpation the abdomen was found to be enlarged and a tumour of irregular outline could be felt above the pubes. Vaginal examination showed the os high up, patulous, and apparently torn by previous labour. No presentation could be made out. Bimanually at first a round, hard mass (Fig. 1—1) could be felt on the tip of the finger much like a post-partum uterus, while behind it was an irregularly shaped mass (Fig. 1—1*a*). This mass could only be moved within very small limits, as from 1*a* (Fig. 1) to 2*a* (Fig. 2), but the round lump was very freely moveable. On the right side it rose well above the level of the umbilicus and almost merged into the liver dulness (Fig. 2). On the left side it had a lower range, as well as one more limited laterally. Both on the right and the left, however, it was plainly connected to the pelvis. Owing to the presumption of pregnancy no sound was used.

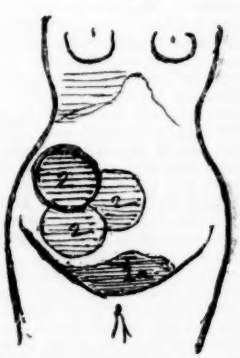
My diagnosis was pregnancy with pedunculated fibroid, but no operation was advisable unless the pain became unbearable or the hæmorrhage proved to be alarming. Dr. Haynes's view was that though pedunculated fibroid was probable there was a possibility that the whole tumour was uterine, as a case had occurred in New South Wales in which an operation had been performed on a supposed

FIG. 1.



1, The round, freely moveable mass. 1*a*, The irregularly-shaped, less freely moveable mass.

FIG. 2.



2, The mass marked 1 in Fig. 1 in its new position. 2*a*, The mass marked 1*a* in Fig. 1 in its new position.

tumour which had ultimately proved to be a uterus with a very elongated neck, a bicornual uterus with one horn extremely developed. Both of us were agreed that pregnancy was probable and that an operation was therefore not indicated.

On May 23rd—three days later—after violent hæmorrhage and severe pain the patient was suddenly delivered of a fœtus with membranes, placenta and all in one mass. The appearance of the afterbirth showed that there had been placenta prævia. The tumours disappeared at once.

This was probably a case of elongated neck of uterus with very thin walls allowing the fœtal head to be felt through the abdominal wall as a floating tumour. It shows the need of caution in the diagnosis of abdominal tumours.

Perth, Western Australia.

DIPHTHERIA OF THROAT, NARES, CONJUNCTIVÆ, AND URETHRA.

BY W. HERBERT GREGORY, M.D., C.M. EDIN.

ON June 6th, 1898, I was summoned to attend a man aged twenty years. The history was that he had felt "shivery" for a day or two previously and had some difficulty in swallowing. His fauces, tonsils, and uvula were deeply congested but not patchy, and the cervical glands were greatly swollen. I diagnosed the case as one of commencing diphtheria and ordered a lotion of perchloride of mercury (1 in 2000) to be sprayed frequently and another lotion of 1 in 500 to swab the throat three or four times daily. I also gave 20 minims of tincture of perchloride of iron and 1 grain of sulphate of quinine every three hours. Strong soups, milk, and alcohol were also given. On the following day (June 7th) his temperature had risen to 101·8° F. There was a greyish-white membrane on the tonsils and uvula and an acrid discharge from the nares indicating extension to the nasal mucous membrane. There was also great swelling of the lower eyelids. On June 8th his temperature had risen to 103·8° and the membrane had spread over the soft palate. The discharge from the nares had increased, the eyelids were very swollen, and there was membrane on the palpebral conjunctivæ. There was also a patch on the anterior lip of the meatus urinarius causing difficulty in micturition. I had by this time received a supply of anti-diphtheritic serum from Messrs. Burroughs, Wellcome, and Co., and of this I injected 20 c.c. Improvement rapidly took place, but a similar dose had to be repeated on three occasions owing to rise of temperature. The case progressed

without a single drawback, the membrane quickly disappearing from all the situations mentioned. I feared greatly that the corneæ would be destroyed, but this fortunately did not take place and the eyes have quite recovered. About a fortnight ago I had the secretions from the mouth and throat examined by the Clinical Research Association and no Klebs-Löffler bacilli could be found. There has so far been no sign of post-diphtheritic paralysis and the patient is now at the seaside and in excellent health. A curious point is that he had diphtheria six years ago. I venture to quote this case because of the unusual number of mucous membranes simultaneously involved and to show the rapidly curative effect of the anti-diphtheritic serum in a case more than ordinarily virulent.

Beverley.

EXPULSION OF ENTIRE UTERINE CONTENTS AT THE SEVENTH MONTH.

By W. F. GARDENER, M.R.C.S. Eng., L.R.C.P. Lond.

THE patient was a married woman, aged thirty-five years, a multipara. At the time of her delivery she was in the last stage of pulmonary phthisis, unable to lie down at all and greatly emaciated. She was seen on the morning of the day of her confinement and had then no pains. During the afternoon she sent for the nurse whom she had engaged to attend her during her confinement as she "felt her pains coming on." The nurse found these to be slight and infrequent and left her with instructions to send again if they did not leave her. In the evening she sent for the nurse again, shortly after whose arrival the pains became suddenly strong, and with two or three violent straining efforts the child, contained in the membranes, with the placenta, was suddenly extruded into the bed. On my arrival I found the uterine contents left *in situ* as they had been born. I immediately ruptured the membranes, but there was no movement of the child, which had apparently been dead for some hours. The uterus was firmly contracted and there was no further hæmorrhage. Of this there had been a slight amount at the birth but none whatever previously. The patient died during the following night. If the uterine contents were absolutely untouched, as the nurse asserted, there was not placenta prævia, as, judging from the position on the bed, the placenta came last.

Sydenham, S.E.

PRIMARY MENSTRUATION AND FIRST PREGNANCY IN MIDDLE LIFE.

By J. F. WOLFE, M.B. Edin.

THE following case deserves to be recorded on account of the great rarity of similar phenomena. A married woman, aged forty-five years, menstruated for the first time about eighteen months ago. When about nineteen years of age she was treated for amenorrhœa at the Portsmouth Hospital for a period of three or four months, but never had the slightest symptom or sign of menstruation until when in her forty-third year she was seriously frightened by an idiot (a step-daughter living in the same house). Menstruation thereupon commenced on the same day and lasted two or three days, from which time up to the date of impregnation, she menstruated but a few times and not at all regularly. The labour, which came on at full term of pregnancy, was much shorter than might have been expected, lasting not more than thirteen hours; the presentation was left occipito-anterior; the pelvis was roomy; forceps were not required. There was apparently nothing unusual about the external genitals, the mammæ were fairly well developed, and milk came freely on the third day. The patient has had seven brothers and two sisters, all of whom died under five years of age. She herself (the youngest) never had any serious illness, but is rather anæmic and has suffered from frequent headaches (not periodically) which do not appear to have lessened in frequency or severity since menstruation started. She has been married eleven years, her husband is healthy and has been living with her all the time. He had seven children by his first wife, all of whom are alive and healthy with the exception of the one above mentioned. For permission to publish this case, which as far as I can ascertain is unique, I am indebted to Mr. H. P. Gaston of Southsea, for whom I attended the patient.

Portsea.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF EXTREME COLLAPSE TREATED ON THREE OCCASIONS BY THE INTRAVENOUS INJECTION OF SALINE SOLUTION.

(Under the care of Mr. BOYCE BARROW.)

THE treatment to be adopted in cases of severe shock depends mostly on the cause which has given rise to it and the use of intravenous injection of fluid is practically chiefly of value in those cases in which a large amount of blood has been lost. Although occasionally success followed the transfusion of blood and the intravenous injection of milk, yet the results of these methods of treatment were on the whole very unsatisfactory. Even the employment of defibrinated blood as recommended by Panum of Copenhagen in 1863 was no more successful, and the operation was generally followed by a rise of temperature, possibly due, as explained by some, to fibrin ferment which had been set free in the process of whipping. The use of saline injections into the veins has now entirely replaced all other forms of transfusion. Many complex mixtures of various salts are recommended, but they take time to prepare and there is no evidence that the results following their use are any better than may be obtained by employing a simple solution of common salt of the strength of 1 drachm to the pint. The more extensive present use of the intravenous injection of saline solutions is in great measure due to the advocacy of this method by Dr. William Hunter in 1889. For the notes of this case we are indebted to Mr. Reginald Hayes, late house surgeon.

A delicate boy, fourteen years of age, who was suffering from cleft palate, was admitted to the Royal Free Hospital in January, 1897, with sinuses of the hip which had troubled him for nearly two years and for which some half-dozen operations had been performed elsewhere. For six months he had worn a Thomas's splint and during the past four weeks abscesses had formed in and around his right groin for which he had been treated at the local infirmary. An examination of the hip made it evident that there was a considerable amount of disease and in a week's time he was anæsthetised with chloroform (which was soon changed for ether) with a view to a more thorough investigation of his condition being made. He lost a good deal of blood in consequence of the considerable amount of fibrous tissue in which some large vessels were embedded making it difficult to secure them rapidly. Extensive disease of the pelvis, great trochanter, and upper third of the femur was found, a good deal of carious bone being removed and the cavity being finally packed with bicyanide gauze. Towards the close of the operation the patient's pulse became so feeble that brandy and strychnine were injected subcutaneously and an enema of hot port wine was administered while he was in the theatre. On removal to the ward his legs and arms were enveloped in cotton wool and were bandaged from the extremities upwards; the foot of the bed was raised and the patient was surrounded with warm-water bottles. Nutrient enemata with brandy were ordered to be administered every three hours as vomiting was troublesome, but as his condition got gradually worse, the temperature falling to 96° F. and the pulse becoming feebler and of a running character and all ordinary methods having failed, at 10 P.M. (six hours after the operation) over two pints of normal saline solution at 100° were injected into the left median basilic vein. Marked improvement was apparent for a couple of hours, when the patient became unconscious, with pupils widely dilated, the pulse imperceptible at the wrist and Cheyne-Stokes breathing. He was now apparently moribund, so it was decided again to try transfusion. The right median basilic vein was found

with some difficulty and over three pints of the saline solution were injected. Towards the end of the injection of the third pint improvement was very obvious; he recovered consciousness and attempted to sit up in bed, smiling and mentioning that he "felt better." The radial pulse became perceptible and of fair volume. He shortly afterwards fell into a sleep which lasted for over five hours and though for several days his condition remained critical he eventually made a good recovery. In about five months time, after a couple of thorough examinations under anæsthetics had been made, Mr. Barrow decided that in consequence of the amount of disease in the pelvic and thigh bones, and taking into consideration the patient's general condition, amputation at the hip-joint would afford him the best chance for his life. This was performed by a modification of the Furneaux Jordan method. Some difficulty was experienced in securing the common femoral artery, which was partially embedded in fibrous tissue and firmly attached to the bone. At this point a good deal of blood was lost. Towards the end the pulse became weak and running and profuse perspiration occurred. On removal to bed the patient became more collapsed; the temperature fell to 95° and the pulse was 146 and grew more and more feeble till it was scarcely perceptible. All the ordinary treatment of shock was tried without any improvement and the patient appeared to be sinking rapidly. Accordingly about 8.30 P.M. two pints of saline solution were injected into the right median cephalic vein, with the result that the temperature gradually rose to normal, and though his condition gave cause for anxiety for several days the lad ultimately made a good recovery. After a few weeks in a convalescent home he returned in the following month, looking very well, in order to have his cleft palate operated on, which was done with a successful result.

Remarks by Mr. REGINALD HAYES.—The case is interesting as showing the striking manner in which this patient reacted to the transfusion with saline solution after failure of the ordinary lines of treatment; and the effect of the second injection after the first operation, when from a moribund condition he recovered sufficiently to smile and speak, attempting to sit up in bed, was very remarkable.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

TWO CASES OF DISEASE OF THE SPINAL CORD FOLLOWING PREGNANCY AND LABOUR.

(Under the care of Dr. J. B. BRADBURY.)

THOUGH there are not wanting arguments in favour of the presence in the blood of toxic substances during pregnancy, and though this theory would serve to explain readily some conditions, such as the nephritis of pregnancy, which are not susceptible otherwise of any easy explanation, yet it must be admitted that in the vast majority of pregnancies there is no evidence of any toxins. The two cases which follow are well worthy of being placed on record, for they are very suggestive of some causal connexion between the pregnancy and the lesion of the spinal cord, though it would be rash to say that one was certainly due to the other. For the notes of the cases we are indebted to Dr. Francis Villy, house physician, and Dr. Burton, late house physician.

CASE 1.—A married woman, aged forty-three years, was admitted into Addenbrooke's Hospital on Sept. 21st, 1896. There was no family history of nervous disease or history of syphilis. The patient had been the mother of eighteen children and had had two miscarriages. Her health had been good till seven years before admission, when she gave birth to a hydrocephalic child. Pain and weakness across the loins followed this event and lasted for nine months; in a year from the same date she lost the use of the right arm and leg suddenly, no loss of consciousness or other cerebral symptoms occurring. There was no facial paralysis or alteration of sensation. About ten months before admission she began to have severe sacral pain; in five months pain occurred in the left knee also, and from that time she began to lose power in the left leg. The sphincters were never affected. On admission the right arm was weak without alteration of sensation or wasting; the reflexes were lively. The left arm was not affected. Both lower limbs were partially paralysed without alteration of sensation, the right one being more advanced than the left, which was slightly wasted. The knee-jerk was much exaggerated and ankle clonus was well marked on the right side; the left leg was normal in these points. Both legs underwent spasms of rigidity at times. No cranial nerves were affected. Subsequently cramp-like pains occurred in both legs and ankle clonus developed on the left side. A feeling of constriction round the abdomen also occurred but did not amount to a definite girdle pain. Under physostigmine the subjective symptoms improved considerably, though the physical signs were still present at the date of the patient's discharge from the hospital (Nov. 15th, 1896).

CASE 2.—A married woman, aged thirty-seven years, was admitted to Addenbrooke's Hospital on Dec. 29th, 1897. There was no family history of nervous disease. She had never enjoyed good health, but there was no history of previous disease except the occurrence of an ulcer of the stomach eighteen years previously. She was the mother of ten children and dated her present illness from her last confinement seven months before admission. She had had sacral pain ever since that event and had never been able to walk properly subsequently, though there had previously been no such difficulty. For three months the legs had been numb, though there had been a deep aching pain throughout their extent for some time. On admission the cranial nerves and the arms were normal. The sensations of touch, temperature, and pain were diminished almost up to the umbilicus, though they were not abolished completely. The distribution of this altered sensation was not regular, tactile sensation being fairly well developed at a zone round each knee and in the feet. Loss of sensation of temperature was most marked. The plantar reflexes were normal, both knee-jerks were much exaggerated, and well-marked ankle clonus was present on each side. The muscular power of the legs was good, no reaction of degeneration being discovered. The patient stated that her legs had wasted slightly during her illness; they were constantly in a spastic condition. The symptoms became steadily worse in spite of treatment and the patient was discharged from the hospital on March 12th, 1898, in a distinctly less favourable condition than on her admission.

Remarks by Dr. VILLY.—The symptoms of lesion of the spinal cord were in each of the above cases so marked and followed so closely after labour that a relation of effect and cause between the two occurrences suggests itself very strongly. Such a relation does not seem to be improbable *a priori*, for it has long been recognised that pregnancy (apart from any septic change due to labour) is a not very uncommon cause of peripheral neuritis.[1] Moreover, there are many who believe that in normal pregnancy there is a general toxic state[2] and such a toxæmia is a recognised precursor of certain diseases of the central nervous system; for instance, syphilis, typhus fever, influenza and other similar diseases may precede lesions of the central nervous system. I can find very little recorded of the production of such diseases by pregnancy. Sir William Gowers[3] mentions that primary spastic paraplegia has in several cases succeeded prostration after childbirth or abortion, or has commenced during lactation, but he gives no further account of such cases. Turney[4] mentions a patient in whom anterior poliomyelitis followed about a month after labour. To prove that the nervous lesions in the two cases in question were actually caused by pregnancy or labour would be a very difficult matter, for not only would it be necessary for such a purpose to exclude the recognised antecedents of similar diseases, but it must also be shown that mere coincidence has not simulated cause and effect. Though much more extended observations than the present ones would be necessary to exclude this last possibility, yet the cases seem to be sufficiently striking to suggest more than coincidence, and it is hoped that this note may serve at least to draw attention to the subject. It will be noticed that in each of the above cases the period of onset followed a considerable time after labour, a course which is at least unusual in peripheral neuritis. In both instances the symptoms were chiefly those of lateral sclerosis, though plainly the lesion was not of the pure form of that disease.

[1] Reynolds: Brit. Med. Jour., Oct. 16th, 1897. Turney: St. Thomas's Hospital Reports, vol. xxv.
[2] Clifford Allbutt: THE LANCET, Feb. 27th, 1897.
[3] Diseases of the Nervous Systems, second edition, vol. i., p. 443.
[4] Loc. cit., p. 38.

Reviews and Notices of Books.

Diabetes Mellitus and its Treatment. By R. T. WILLIAMSON, M.D., M.R.C.P. Lond., Medical Registrar, Manchester Royal Infirmary. Edinburgh and London: Young J. Pentland. 1898. Pp. 417.

DIABETES mellitus is a disease upon which physicians delight to theorise; the literature on the subject is immense, and there is probably no condition on which more opposite opinions are held by scientific men. Dr. Williamson has succeeded in producing an excellent *résumé* of the various views held as to the pathology of the disease as well as in giving us a large amount of information as to the symptomatology and treatment of the complaint based upon his own experience. After an introductory chapter the author deals very fully with the many tests which have been introduced for the detection and estimation of grape sugar in the urine. He speaks highly of phenylhydrazin as a clinical test for sugar and describes a simplified method of applying it. The reagents, he says, do not readily decompose and the test is easily carried out and consequently is very suitable for clinical work. It is very sensitive—more sensitive than Fehling's test and the fermentation test—but it is not too sensitive and gives no reaction with normal urine. It is also of especial value as a *negative test*—that is to say, a urine which gives no reaction by this method may be declared quite free from sugar for practical purposes.

Chapter III. deals with physiological considerations and demonstrates that the author has given much careful consideration to every detail of his subject. In Chapter IV. Experimental Diabetes and Glycosuria are discussed, the author remarking that "the theories which have been put forward to explain diabetes mellitus are exceedingly numerous. ..... The riddle has not yet been solved and probably the day is far distant when a satisfactory answer will be given. Nevertheless, many important facts have been ascertained and experiments on animals have furnished much interesting information." Dr. Williamson again shows his capabilities of sifting the information he has obtained, rightly deciding to refer only to the more important results of experimental work in a book devoted mainly to the clinical side of the subject.

Extremely interesting is the chapter on the Etiology and Etiological Relations of Diabetes and we would especially draw the reader's attention to the remarks on the relation between diabetes mellitus and lesions of the pancreas. Dr. Williamson considers that it is very improbable that all the varied pancreatic changes which have been recorded in diabetes are the *result* of the disease; but, on the other hand, he believes that in *certain cases* diabetes is *directly due* to pancreatic disease. The symptomatology of the disease, the complications and pathological changes in connexion with the various systems, together with diabetic coma, occupy three long chapters and form a most excellent description of the clinical aspects of the disease given by one who has evidently exceptionally good powers of observation and has made the most of the opportunities he has had for observing patients suffering from diabetes mellitus. The chapter on Treatment will naturally receive great attention from the reader and may be the subject of some adverse criticism, but on the whole we certainly agree with the system adopted by Dr. Williamson. The chief objects to be arrived at are (1) to diminish the amount of sugar in the urine and blood, to diminish the amount of urine, and to relieve thirst. These points are appreciated by everybody, but often the medical man proceeds no further unless there are (2) various complications which require treatment. There is a third object, however, which is often neglected—namely, to increase the weight, or at least to maintain it (except in those mild cases in which the disease is accompanied by obesity) and to improve the general condition. Dietetic treatment naturally holds the first place and the author's remarks are most full and valuable. He emphasises Minkowski's division into the mild and severe forms and gives an elaborate description of the diet to be ordered in each. Comment is also made on the various drugs which have been suggested, the administration of opium being especially commented on. Taking the book as a whole, we can cordially congratulate Dr. Williamson on the success of his labours, and our readers will find it a first-class book of reference.

The Wonderful Century; its Successes and its Failures. By ALFRED RUSSEL WALLACE. London: Swan Sonnenschein and Co., Limited. 1898. Price 7*s.* 6*d.*

A RECORD of the failures and successes of "The Wonderful Century" by a great thinker will command the perusal of all intelligent people. There are those who join issue with Alfred Russel Wallace on certain of his opinions—ourselves among the number—but few, we imagine, would find a place for polemics when considering the enormous advances made in this wonderful nineteenth century. Advances they assuredly are when we reflect upon the present state of the sciences—medicine, chemistry, physics, astronomy, geology, &c.—compared with the condition of our knowledge before Queen Victoria came to the throne. The successful study of these has placed the human race on a footing never reached before. Modern comforts are the fruit of it, accelerated modes of travelling, cheap as well as good food and clothing, rapid transference of thought and communication of ideas, and lightning communication of occurrences are all the outcome of man's curiosity and of this curiosity being followed up by successful discovery. In short, it is pre-eminently the age of discovery, and the progress of inventive genius is still maintained. Each discovery suggests fresh issues, fresh issues beget further discovery, and thus the giant strides in civilisation are made day by day. These are the "successes" which Mr. Wallace forcibly and delightfully recounts in 150 pages in Part I. of his book. But the "failures" occupy 230 pages in Part II. Judging therefore from the length of treatment of the two sides of the story the "failures" are in the majority and would thus belittle the title of the book. Over 100 pages—that is nearly a half of the whole section—are devoted to Vaccination a Delusion: its Penal Enforcement a Crime. Perhaps it occurred to the author that as he accounts vaccination as one of the most conspicuous failures of the age he could astutely find a place for it in the present volume to bring it into bold relief from his point of view with what he accepts as the "successes" of our time. Treated, however, at such a length it might have occupied a separate work. But without this section the "Wonderful Century" would have been a thin volume. Perhaps, after all, the title of the book is more attractive and agreeable to the average reader than vaccination. We have before expressed our admiration and respect for the great mental grasp of natural laws which, as everybody knows, Mr. Wallace possesses, but vaccination is a subject upon which he cannot claim to have any special knowledge, as he is neither a medical man nor a pathologist. Statistics, it has been said, may be made to prove anything. With Mr. Wallace vaccination "is no longer a question of opinion but of science, and I have (he concludes) the most complete confidence that the result I have arrived at is a statistical and therefore a mathematical certainty." He deals more broadly and liberally with

hypnotism and psychical research and "the neglect of phrenology," but again breaks out in Chapter xix., on Militarism, the Curse of Civilisation; in Chapter xx., on the Demon of Greed; and in Chapter xxi., on the Plunder of the Earth. Despite all this the work must be admitted to be a literary and scientific contribution of no mean order, as might be expected of an author who has written so abundantly, wisely, and fruitfully in the annals of one of the most important branches of science.

On Failure of Brain Power (Encephalasthenia), its Nature and Treatment. By JULIUS ALTHAUS, M.D., M.R.C.P. Lond., M.R.I. Fifth Edition, Enlarged and Revised. London: Longmans, Green, and Co. 1898. Pp. 270. Price 5*s*.

IN this work Dr. Althaus describes the condition commonly spoken of as neurasthenia but which he prefers to call encephalasthenia. It is an affection which notoriously involves much real suffering to patients and much inconvenience to their friends and often to their medical attendants. By some it is regarded as an exhibition of weakness merely requiring an effort of the will to "throw it off," by others as a "psychosis," a morbid mental condition, whilst by Dr. Althaus it is regarded as due to definite disease of certain special areas in the brain. After a historical sketch of the literature on loss of brain power Dr. Althaus gives a more or less popular account of the structure and functions of the brain. He describes with some fulness the "association centres" of Flechsig, which are shown in a diagram. These it will be remembered are districts in the brain which were shown by Flechsig to become myelinated much later after birth than the sensory centres, and he formulated the hypothesis that these were "association centres" connecting the various sensory spheres and specially subserving mental processes. The "posterior association centre" in the temporo-sphenoidal, parietal, and occipital regions is regarded as specially associated with high intellectual work, the "intermediate" as the association centre for language, and the "anterior centre" in the first and second frontal centre "contains the most essential elements of self-consciousness. It regulates our actions, enables us to judge our own performances, and tells us what to do and what to avoid. Disease of this centre changes the perception of the *ego* as an active being; it diminishes or destroys personal initiative, and prevents us from fixing our attention. Irritative disease of this centre causes either unmeasured self-conceit or self-depreciation, while decay of it leads to indifference, self-oblivion, and impaired judgment" (p. 65). All this may be interesting speculation, but it remains pure hypothesis now as much as when Flechsig first enunciated it. But Dr. Althaus speaks as if it were unquestioned, and when at the end he comes to treatment we find that he bases his treatment with great assurance on these hypotheses. "The principal remedy ..... is electricity." The constant current carefully graduated is to be employed and the electrodes are to be applied to these "association centres"—to the anterior centre "in cases where self-consciousness is exaggerated or perverted, self-control deficient or wanting, personal initiative and decision absent or diminished, and where it is difficult to fix the attention. ..... The posterior association centre has to be acted upon whenever the normal interpretation of external impressions is suffering and where the thinking power is more or less in abeyance, with absence or flight of ideas and foolish notions on persons and things" (pp. 262, 264). Dr. Althaus writes with much earnestness and appears to have convinced himself that the success which he claims to have had is due to restoration of these unproved and, we think, rather improbable functions enjoyed by definite areas of the brain. The book contains a great deal of information about the nervous conditions which are grouped under the term "encephalasthenia"; but the title of the book leads us to expect guidance on the nature and treatment of the disease, and on neither of these subjects do we think that Dr. Althaus's teaching is well founded.

A Text-book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D. London: The Rebman Publishing Company. 1898. Price 36*s*.

THERE seems to be no pause in the steady flow of new text-books of medicine and surgery, so that year by year the choice of the student becomes more embarrassing. He may well envy his forerunners of a past generation who were limited in their selection to two or three works of acknowledged merit which appeared in new editions with unceasing regularity. To-day, in addition to fresh editions of old favourites the student is confronted with entirely new books by teachers who must find it increasingly difficult to so compile their material as to justify the addition to the library of the medical school. No doubt, so rapid are the advances of knowledge, each successive text-book contains something which its predecessors lacked, just as the latest edition of such a work comes to bear very slight resemblance to the original from which it sprang. It is obviously impossible for any author of a text-book to impart much novelty into his work, other than the introduction of fresh facts furnished by the progress of science, but it is essential for the success of his teaching that it be well systematised, clear, and precise, with due regard to the relative importance of the facts with which it deals. The work before us seems to fulfil these conditions. It is free from redundancy, it is planned on an intelligible basis, and is obviously prepared by one who has had experience in teaching and knows the student's needs. The author is Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia, and he writes with full appreciation of the bearings of modern science. We note, for example, the inclusion of lobar pneumonia amongst the infectious diseases, and the description of all forms of local tuberculosis, including pulmonary phthisis, under the general head of Tuberculosis. He gives clear directions of the bath treatment of typhoid fever, appraises the value of the antitoxin treatment of diphtheria, describes fully the hæmatozoal origin of malaria, the amœbic origin of dysentery, and so on. There is no need to discuss his chapters in detail, but we may call attention to the extensive introduction of tabular comparisons between allied diseases which summarise the leading points in their differentiation. We are not altogether convinced of the utility of such comparative lists, which are perhaps best left to the student himself to compile; but we must say that they are here judiciously drawn up and may prove of assistance to teachers if not to students. The book as a whole is very complete and it deserves a prominent place amongst medical text-books. It is, moreover, very well printed and illustrated and possesses a copious index.

BRITISH ASSOCIATION.—In connexion with the forthcoming visit to Bristol of the British Association for the Advancement of Science it is stated that the number of foreign guests promises to exceed all anticipations. In addition to the list of excursions already announced in THE LANCET additional ones have been arranged for Exeter, Plymouth, and Torquay. The visitors will begin to arrive in Bristol on Monday, Sept. 5th, and on the following day the Cabot Tower will be opened by the Marquis of Dufferin. The Presidential Address will be given on the evening of Wednesday, Sept. 7th, and the sectional meetings will commence the following morning.

THE LANCET.

LONDON: SATURDAY, AUGUST 6, 1898.

SIR T. GRAINGER STEWART, standing as successor to ALISON, CHRISTISON, STOKES, and ACLAND as President of the British Medical Association, may be excused for lauding his office and may be congratulated on his address. The address—a full abstract of which we were able to publish last week—was not in any sense a disclosure to the profession of new truths in pathology or therapeutics. It covered a large number of subjects affecting the relations and efficiency of the profession, any one of which might have occupied the whole of his time. But in his selection of topics and in the broad judgment which he passed on them it may safely be said that he expressed opinions which any of his illustrious predecessors would have approved. Some of our readers will not agree with him in his objections to a one-portal system. He recognises the demand for this system but thinks the legislature was well advised in retaining the many portals which exist. He considers that separately they are capable of being made to do good work; that while there should be a minimum standard it is well to have a variety of qualifications, some of a humbler sort and easily acquired, others of a higher order and more difficult to attain; and he thinks it would pass the wit of man to devise a method by which either for the whole kingdom or for each division of it one equitable and trustworthy entrance to the profession could be planned. These are very interesting but very debateable propositions. We are not prepared to say that they do not contain a good deal of truth which may be easily overlooked in a superficial discussion of the one-portal system, but it is certain that the many portals which now exist do not command respect either by the minimum which they enforce at the one end of the scale or by the higher standard which carries University honours and titles at the other. If the many-portal system is to be maintained two things are essential. The minimum standard must be more severely defined than at present and the General Medical Council must be entrusted with the function of determining whether the University examinations are what they pretend to be—that is, higher in standard than those which are supposed to represent a mere pass examination. One of the questions which every student of medical politics must feel to be pressing is whether any examination entitling him who passes it to a qualification to practise and to a place on the Medical Register should be of a really humble sort in the sense of being easy of acquirement. The humblest worker in the most squalid district has the same problems to encounter as the practitioner in the most fashionable district of London. Disaster and discredit will follow ignorance. We know the arguments for humble qualifications and we see how the druggist with no qualifications at all treats half the diseases of the public. But the remedy lies not in imperfect education and humble qualifications, but in that sound training which forms the true medical man and differentiates him from a mere dealer in drugs.

The part of Sir T. GRAINGER STEWART'S address which was most opportune and which commanded the widest attention was that in which he described the duty of the legislature in the prevention of disease. He pointed with just pride to the enormous progress which has been made in the reduction of the mortality from the principal groups of disease. The annual death-rate from disease in England and Scotland has fallen in less than fifty years by more than one-fifth. The proportion of deaths from zymotic diseases as compared with other causes has diminished by more than one-third. The treatment of disease of individual organs is much more successful than it was a few years past. Even the mortality of tuberculous diseases is less by one-third than it was in the sixties. We pointed out a few weeks ago that in Liverpool this was most unmistakably true. It seems more strikingly so in Glasgow, which once ran Liverpool hard in all which was unsavoury and unsanitary. Sir T. GRAINGER STEWART tells us that comparing the last seven years' mortality from tuberculous disease in Glasgow with that of the seven previous years the deaths from pulmonary tuberculosis are nearly one-fifth less and the life of those stricken is much longer. This fact alone justifies Sir T. GRAINGER STEWART'S statement that the country has awakened during the QUEEN'S reign to a sense of the benefits of sanitary legislation, without which such enormous saving of life could not have been effected. It need not be said that such legislation has been suggested by the medical profession and that the Acts which have been so instigated have been practically administered by the same profession. It might have been expected after an Education Act had been in operation for a quarter of a century, and such great results could be shown to have resulted from legislation inspired by medical science, that the public would have been eager to receive further teaching from the profession for the control of preventable disease. Here the President had to confess the limitation of popular intelligence and to point out, as he did most ably, the disastrous influence which is being exerted on the English public and the Parliamentary mind by a "comparatively small group of men" who have fastened on the subject of vaccination with a determination worthy of a better cause, have maligned the process, have belittled its advantages and have magnified and multiplied its slight risks. Sir T. GRAINGER STEWART is a generous and sanguine man and in spite of all which we have lately seen retains faith in the community coming to its senses and to a just appreciation of what it owes to the medical profession. We have not the same fears that he has expressed as to the inclusion of a conscience clause in the Vaccination Bill—our views are fully expressed in a leading article this week—but we fully endorse his claim that the medical profession has established its right to be heard with respect on all questions of public health, while the medical voice on the efficiency of vaccination is practically unanimous.

We must conclude, though we have not referred to all the subjects touched on by the President in his comprehensive address. He spoke in terms of praise of the work of the General Medical Council in raising the standard of preliminary examinations, in extending the period of medical studies, in its opposition to "covering" and other forms of unqualified practice, and argued for the extension of its powers. Not the least effective part of his address was that in which he discussed the medical organisations within the profession, and notably the British Medical Association, the objects of which are the promotion and advancement of medical and allied sciences and the maintenance of the honour and the interests of the medical profession. With the praise accorded to the Association and its work we concur. It is a great agency for good in the profession—too great a one to be made the tool of any small cliques or the subject of rash experiment. If it continues on its old lines with courage and discrimination it will deserve fifty years hence even more than it does now the praise accorded to it in Edinburgh by Sir T. GRAINGER STEWART.

THE Address in Psychological Medicine delivered by Sir JOHN BATTY TUKE at the concluding general meeting of the British Medical Association is in several ways very encouraging to neurologists. The speaker was certain of having a congenial and familiar theme whatever part of the wide field before him he might select for his subject on this occasion, and in discoursing on Modern Conceptions of the Etiology of the Insanities he was able to refer with justifiable satisfaction to the great progress which has been made in our knowledge of cerebral physiology and pathology. It is no new thing for the researches of the laboratory to bear fruit in the treatment of disease. The elucidation by Pasteur of the nature and effects of microscopic organisms paved the way for the practical work of Lord LISTER by which operative surgery has been revolutionised and the subsequent vast developments of micro-biology have profoundly modified our views with respect to the diagnosis and pathology of a most important class of diseases. In the case of diphtheria, for instance, laboratory methods of diagnosis not only tend to supplant clinical experience, but have introduced fresh complications into the problem by the discovery that the presence of pathogenic organisms is sometimes compatible with apparently perfect health. These are the triumphs of the microscopist and the experimental physiologist, but to those who have the responsibilities and anxieties of lunacy practice, whether as consultants whose advice is sought in doubtful cases of mental aberration or as superintendents of asylums for the certificated insane, it has long seemed as if the progress of scientific discovery did little or nothing to clear away the difficulties of their specialty. Even after the asylum treatment of insanity had been remodelled by the introduction of humane modern methods the heads of such establishments were, and still are, too often doomed to a system of indefinite expectancy in the matter of special treatment. The hardships of enforced detention may be alleviated by kind usage, frequent amusements, liberal and wholesome food, varied occupations, and hygienic surroundings, but it is undeniable that a considerable proportion of the inmates are incapable of improvement—a misfortune which is in some cases probably due to the fact that they have not come under medical observation until the malady was so far advanced that the signing of a certificate for their detention could no longer be delayed. Apart from epilepsy and congenital idiocy, the current classifications of insanity were purely psychological, until in course of time it came to be understood that a group of symptoms known as general paralysis—a condition which could often be recognised in a comparatively early stage—tended inevitably to progress by slow degrees to mental excitement, dementia, and death.

Since 1864, however, as Sir J. BATTY TUKE reminded his hearers, the combined labours of microscopists, physiologists, and pathologists have succeeded to some extent in lessening the influence of mere psychology on our conceptions of insanity and have partially replaced it by the surer basis of anatomy. For the names and merits of the foremost workers in this field we must refer our readers to the address itself, but there is no reason for disguising our satisfaction at the circumstance that the names of HUGHLINGS JACKSON and others of British nationality hold a good position in the honourable list. Let us turn now to the brief outline of their discoveries as given in Sir J. BATTY TUKE'S own words:—

"The observation round which all others centre is, to my mind, the demonstration of the mechanism by which impulses are carried from the periphery to the cortex and from the cortex to the periphery. We know that series of fibres exist which, starting from the entire surface of the body, from the muscles, and from the mucous membranes, are collected in the spinal cord and pass upwards to the optic thalami, whence—as demonstrated by FLECHSIG, whose observations have been confirmed experimentally by FERRIER and ALDREN TURNER—they are distributed in three systems to the cortex. ..... It is not necessary for our present purpose to consider where and how the transmutation of peripheral impulses takes place, but it is of importance to emphasise the statement that impulses are not generated in the cell body. As GOWERS says, the old battery idea must be thrown aside. ..... All impulses come from without, a fact which must have important bearings on the question of the adjustment of outer to inner relations. ..... Shortly after the methods of cutting and staining microscopic sections of nervous tissue were discovered the fact was elucidated that marked departures from health were to be found by microscopic examination of the brains of persons dying insane, and the results were embodied in the work of BEVAN LEWIS, in which not only were lesions described in the mass, but differentiation of special lesions in connexion with certain classes of insanity, were demonstrated. ..... In most of the recently-erected institutions for the insane at home and abroad we find separate hospitals provided for the treatment of acute cases. This surely marks the reduction of theory to practice. Instead of the subject of a recent attack of insanity being mixed up with the residuum of chronic cases he is placed in a separate institution, where he is submitted to systematic treatment on hospital principles."

So far Sir J. BATTY TUKE had been addressing himself mainly to specialists in lunacy work, but in concluding he foreshadowed a time when the importance of early treatment of mental disorder would be more generally recognised than at present. Timely treatment would of course have to be conducted largely by the family medical adviser, as

there is no prospect of the law permitting certification until the symptoms have become definite and well-established, but when the educated public come to know that mental disease is most amenable to treatment in its incipient stage, and that delay in obtaining medical advice is the worst possible policy, there is good reason to believe that certification may in some cases be dispensed with.

Now that the holiday season is once more upon us it may not be out of place to raise a protest against the tyranny of custom and conventionality. Holidays are not only pleasurable, but in many cases an absolute physical necessity. Still, this is no reason why we should allow ourselves to be tyrannised by the idea that we must take a holiday at a particular season and in a particular manner. Even though Society issues a ukase that everyone shall leave town before the end of August we are not absolutely obliged to obey this order. Instead of studying the edicts of fashion we should study the idiosyncrasies of the individual. Doubtless the country is very pleasant in the autumn, but town also is more agreeable during that season. Indeed, it occurs to us that for those who can afford to travel far enough midwinter may be the best time for a holiday. After all, is it not better, especially for those who have a tendency to diseases of the respiratory organs, to escape from the fogs and foul weather of winter than to leave town during the very best period of the year? In midwinter more sunshine and brighter sunshine can be enjoyed on the Riviera than is seen in England during the summer months. Those, therefore, who have reason to fear the English winter climate should postpone their holidays till November or January unless they are in the fortunate position of being able to take two holidays in the course of the year. It must be borne in mind that the custom of the summer holiday came into existence long before the invention of railways and steamships. In those days the difficulties of travelling on the Continent were very great. Only persons with large fortunes could hope to reach a semi-tropical climate during the winter and even then the fatigue of travelling for days, not to say weeks, in a diligence was so great that no delicate person could safely undertake such a journey. It was therefore quite natural that the best time of the year should be selected for the holiday season. Now, however, even families who possess but moderate means can enjoy two summers instead of one in the course of the year. The Riviera winter is brighter than the English summer. The journey South certainly costs more than the journey to any English, Scotch, or Irish resort, but life on the Mediterranean is cheaper—indeed, much cheaper. The very large and fashionable hotels are expensive, but there are many very good second-class hotels on the Riviera where complete board, including wine, can be obtained for 8*s*. a day. It is because these facilities for wintering in a warm, bright climate have only come into existence quite recently that summer still remains the holiday season. In time and for many people this custom might be altered and the holidays taken in midwinter so as to escape some of the worst features of the British climate.

Meanwhile, and for those who are about to leave home now, we would insist that a holiday should secure complete rest, and the best rest is a thorough change of scene and occupation. Above all, there must be no mental worry or over fatigue. Exercise is most beneficial, but the abuse of exercise is injurious. In this respect cyclists are particularly prone to overstrain themselves. In so far as cycles have induced persons, especially women, to take exercise when formerly they took little or no exercise they have undoubtedly contributed to improve the health of the population. On the other hand, many people have been injured by overstraining. In this respect there is a special danger in the organisation of holiday parties with cycles. If the persons composing the party were physically equal in strength and animated with the same spirit of moderation, such expeditions would be as beneficial as, doubtless, they are enjoyable. But this is rarely the case. Some are stronger than others; some find their pleasure in going far and quickly. The others, from a spirit of emulation or simply so as to be agreeable to their companions, also strive to go far and quickly. Consequently they overtax their powers and the holiday may do them more harm than good. The fable of the tortoise should be taken to heart. It is far better to lag behind to-day and live a long healthy life than to go "scorching" ahead at the risk of breaking down to-morrow. He laughs best who laughs last. There is more than one race to be run in life and he wins most who best husbands his strength.

These laws apply to the mind as well as to the body, though it does seem possible to work the mind much more than the body, as witness the ripe old age of great scholars, statesmen, lawyers, &c. But if such men as M. THIERS and Mr. GLADSTONE accomplished an immense amount of mental work they had also a wonderful faculty for rest. The secret of Mr. GLADSTONE'S long life was doubtless due to the fact that he was not only able to sleep easily, but that he was always ready to abandon even the most important, the most urgent task, and to lie down to sleep then and there, whenever he felt really fatigued. That is the true principle. No matter how disappointing or how humiliating to our pride we must stop, and stop at once, when we feel that we are doing too much. After all, a greater, a higher, a nobler strength is required to confess our weakness than to go struggling on. The youth who can calmly endure the jeers and taunts of his companions rather than attempt that for which he feels he is not physically or mentally fit will in the long run prove to be the better man. A holiday must be a holiday and a false pride must not be allowed to convert pleasurable, easy exercise into a painful strain, an injurious competitive struggle. Over-exertion has always been the accompanying danger and evil of all athletic games and sports, and this cause of injury is now more widespread because an enormous number of people who never indulged in athletics have become bicycle riders. It is, therefore, more than ever necessary to preach the doctrine of moderation. So, likewise, with regard to mental exertion. The man whose mind is overstrained by business responsibilities and worries must so plan out his holiday that it shall not occasion him any mental anxiety. In many instances it is the mind far more than the body which needs a holiday, and this fact should

be carefully considered. Consequently the holiday should be mapped out, not according to custom, fashion, or the example of friends and of society, but only according to the especial physical and mental requirements of the individual concerned.

THE Vaccination Bill was read a second time in the House of Lords on Tuesday last, and the committee stage was to be taken last night (Thursday). At the time of writing we are in ignorance of the fact whether it has or has not been allowed to pass the Upper House unaltered. There has been much frantic advice to the Peers to save the country by casting out the conscience clause which was inserted by the Government at the eleventh hour, but when we regard the majority by which the Bill passed its third reading in the Commons we do not see what ground there can be for such appeals. For it must be remembered that as it left the Commons the Bill was more in harmony with the recommendations of the Royal Commission than it was when first introduced, and be the motives for the change of front what they may it is equally certain that this change was advocated by the great majority of the speakers in the debate on the report stage of the Bill.

But some writers, and responsible ones, have not only appealed to the House of Lords to re-impose compulsion; they have called on the medical profession to speak "in no uncertain tones" in the same sense. We would venture to remind those who write so urgently that our profession has, with a unanimity rendered all the more striking by the fewness of those who hold a contrary opinion, never faltered in its conviction of the efficacy of vaccination. The pronouncement of the Royal College of Physicians of London that vaccination "*properly performed*" and "*duly repeated*" is the "only known preventive of small-pox" expresses these views. That is a proposition which no sophistry can dislodge, which is confirmed by the experiences of every epidemic and is endorsed by those whose office it is to combat such outbreaks by all the resources of science. The characters of small-pox—its high degree of contagiousness, the rapidity of its spread on congenial soil—defy the efforts to suppress it by isolation alone, or to arrest it in its earlier days of invasion; and if vaccination were not at hand to render its remarkable aid the disease would become as common and as widespread in this country as it was in times when sanitary science was unknown. Nor does the fact, dwelt on with so much unction by the anti-vaccinationists, that epidemics occur in so-called "well-vaccinated" communities, affect the truth of the proposition in the least. The medical profession are aware that vaccination does not afford life-long protection and it is because this Bill ignores the highly important factor of revaccination that it fails to secure our sympathy. To ensure a community having the full benefit of vaccination, then, the operation must be "properly" performed—that is, with every reasonable precaution and with thoroughness. The provisions in the Bill for the use of glycerinated calf-lymph and for domiciliary vaccination are intended to meet this condition. But vaccination must be also "duly repeated," and for this there is no provision in the Bill. And, further, the community cannot reap all its advantages, cannot feel secure in their immunity from small-pox, unless every single member has in compliance with these conditions been properly and repeatedly vaccinated. How is this general vaccination and revaccination to be secured? This is a question for the State, not for the medical man, and when politicians call on us to show them the way they are inciting us to step outside our legitimate province.

The whole question may be summed up in a few words. The object aimed at by the State in legislating on vaccination should be to secure the benefits of this safeguard to the greatest possible number of persons. This can be done with varying degrees of success by one of three courses: (1) universal compulsion under penalties; (2) compulsion limited in extent by mitigation and restriction in the number of penalties; or (3) optional vaccination. The first plan, still effectively carried out in Germany with the best results, has been tried for many years in this country with a gradually increasing want of success. The strong opinion expressed by the Council of the Royal College of Surgeons of England in 1893 and reaffirmed the other day in favour of the continuance of such legislation may be a counsel of perfection, but can be nothing more. *Nulla vestigia retrorsum*, and the practical man, especially if he has perused the evidence given before the Royal Commission on Vaccination, must be convinced that in regard to vaccination the policy of "thorough" compulsion is no longer possible in this country. We may deeply regret the fact and may seek to explain it away as the work of misguided fanatics, but it is none the less real and the continuance of the old plan only tends to bring the law into contempt. None of us are blameless in this matter. We have condoned laxity in the performance of vaccination. We have not striven to set forth its great advantages or to diminish its attendant risks. These have been unscrupulously magnified until parents with no fear of small-pox before their eyes have preferred to resist the law rather than subject their children to the supposed dangers of vaccination. The second alternative, modified compulsion with restricted and mitigated penalties, is what the Government Bill intended, coupled with provision for increasing facilities for and diminishing the risks of vaccination. It was hoped that many objections would be removed by these concessions, but the opinions expressed in the House of Commons led the Government to change their plans and to adopt the third alternative and by the introduction of a conscience clause to practically make vaccination optional and not compulsory. This, which has been variously characterised as a piece of political expediency or as yielding to the clamour of a clique, may nevertheless prove to be the most statesmanlike course, though no medical man can view with equanimity the possibility of an outbreak consequent upon a liberal use by the public of the right to conscientious objection. However, if the plan were to reduce the number of recalcitrants it would not attain the objects aimed at unless it were accompanied by provisions for a similar enforcement of revaccination of adolescents. Therefore, we shall not regret the withdrawal of this Bill.

Annotations.

"Ne quid nimis."

THE FRENCH GOVERNMENT MATCH FACTORIES.

THE Home Office has just issued a short report prepared by Dr. Thomas Oliver on the French match works at Aubervilliers, Pantin, and Marseilles, which he visited during the course of the month of June. From this interesting document we gather that the prevalence of phosphorus poisoning has been very materially reduced since these factories were taken over by the French Government and the trade in matches was converted into a State monopoly. But this improvement was not brought about at once; it was not till 1896 that the French Government appointed a Commission to investigate the matter. The question with which Dr. Oliver does not deal, but which is nevertheless of some practical interest, is whether the action taken by the French Government was more prompt and more effective than was our action in England. Nevertheless from the facts stated in the report it would appear that such is the case. For instance, at the coroner's inquest concerning the death from lead-poisoning of a "dipper" named Henry Wagstaffe, a witness having admitted that he did not read the warnings posted in accordance with the Factory Act, the coroner, Mr. Wynne E. Baxter, exclaimed: "It is a great pity when the Government try to protect you people you won't take the trouble even to read the rules." Dr. Oliver, in his report on the French State factories, when alluding to similar rules for the protection of the health of the workpeople, says that they have "to be read out aloud on the first Saturday of every month, those in charge inscribing in a memorandum-book the date upon which this monthly reading took place." These rules for the French match factories enjoin that no food or drink be allowed in the workshop, but must be left in the dining-room; that before meals the working clothes must be left in the cloak-room and the workpeople must wash their hands with soft soap and water and must gargle their mouths with a gargle specially provided for that purpose. Then only are they allowed to eat. The same precautions are taken on their leaving the works. Further, it is enacted that no one shall be employed under sixteen years of age and that they must first be examined by the medical man, who must certify that they are free from bodily infirmity and contagious disease, that they have been vaccinated or have had small-pox, and that the state of the teeth is good. As a result of these precautions among the 575 men and women employed at the Pantin and Aubervilliers works there has not been a single case of phosphorus poisoning during the period Dec. 1st, 1896, to Dec. 1st, 1897. Yet during that time the methods of manufacture have not been altered, and the ventilation, though effective in the "dipping," was not effective in the "boxing" department. Dr. Oliver concludes that though formerly there were many cases of poisoning there is now apparently a reduction, at least in the severer cases. This is due to raising the age of admission, to medical examination, subsequent close supervision, repeated dental examination, the personal cleanliness of the workers, and immediate suspension on first symptoms of illness, with allowance of two-thirds of the salary while the employé is away from the works. Dr. Oliver further credits the French Government with doing all in its power to discover better methods of manufacture. Chemists and inventors are paid out of the public purse to study the matter, and the result is that a match which will strike anywhere and yet which is free from phosphorus has been invented, though it has not yet become a commercial article.

QUESTIONS OF MEDICAL SECRECY.

Two questions relating to the observance of professional secrecy have lately been discussed in France. The first was as follows:—Should a medical man reveal to a mother the fact that her daughter is syphilitic? On the one hand it was maintained that if the girl consults the practitioner on her own account he is absolutely bound to secrecy. On the other hand it was held that if the mother brings the girl—who is very probably a mere child—to the practitioner, he has to consider that she is not likely to appreciate the gravity of the disease or the risks of contaminating other members of the family as well as her mother can, and his own common sense must guide him under the circumstances of the particular case as to whether it may not be for the patient's own advantage as well as for that of the family to explain matters to the mother. The other question relates to a case which has recently occurred. A practitioner having been sent for to a family whose regular attendant he was became a witness of a violent scene between husband and wife terminating in acts of cruelty. He withdrew without giving any professional advice or any prescription. Subsequently he was summoned to give evidence in a court of law in connexion with a demand for legal separation of the husband and wife, but refused, claiming that he was bound to professional secrecy, which, it must be remembered, is more obligatory, from a legal point of a view, in France than in this country. The court, however, did not admit the plea and fined him 10 francs. In view of an appeal against this he asked for the opinion of his professional brethren as to his action. Different views were expressed, some holding that what he saw was not a secret confided to him as a medical adviser, for in fact he was not acting in a professional capacity at all and therefore could only have been an ordinary witness, while others thought that having been for a long time the family professional confidant and having been sent for as a medical man he was bound not to divulge what he knew, especially as he might have been pressed in the witness-box to mention circumstances which had come under his notice in previous visits which had been strictly professional. Doubtless, too, it was urged it would create a bad precedent if it were established that one of two disputants might send for a medical man simply for the purpose of ensuring the presence of a witness to some *fracas*, for this would be a degrading position for a medical man, whose work is certainly not that of a professional witness. The case, as a matter of fact, came to no definite conclusion, being withdrawn by the parties themselves.

THE EFFECT OF TELEGRAPH WORK ON THE HEALTH.

IN a paper read before a meeting of railway telegraph clerks in Manchester on March 26th Mr. J. T. Hull, president of the Railway Telegraph Clerks' Association, gave so unfavourable an account of telegraph work in relation to the health of the operators that he not only described it as being responsible for many bodily ailments, but said that there was an extreme probability of its "being the most deleterious in its effects upon the operator of any trade or profession hitherto regarded as dangerous." Telegraphy, he said, is essentially a mental action, involving principally the auditory nerves. The development of this faculty in a proficient telegraphist may be approximately ascertained by a simple calculation. In ordinary working—that is, reading twenty words per minute, the operator distinguishes about 150 alternations of pitch (on the needle) or duration of beats (on the sounder) and under pressure it is said that as many as 450 may be accomplished. In telegraphy there is also the translation of

the auditory symbols into visual symbols—i.e., the writing, which implies mental exertion. While normally 120 discriminations per minute may be made of varying sensations the telegraphist never does less than 150 and may do 450 per minute. Without taking the extreme case it may, therefore, be safely asserted that the auditory faculties of telegraphists are about 2½ times as sensitive as those of ordinary persons. In telegraphy it is the uninterrupted continuance of nerve stimulation, the monotony of sound, and the fixity of attention which are injurious, the work being pre-eminently the reception and mental arrangement of monotonous sounds and demanding close and arduous attention. That this condition of concentrated attention is most acutely enervating is the unanimous testimony of all physiologists. During a pressure of work the interference with normal respiration, the increased action of the heart, and the rush of blood to the head may be readily observed. These effects are most noticeable during a spell of rapid sending and are probably due to the physical movements making the attentive effort more onerous. The prevalence of phthisis among telegraphists is clearly shown in the following tables taken from the evidence given by Mr. Garland before the Royal Commission appointed to inquire into the grievances of the Post Office employés:—

TABLE A.—*Showing Comparative Percentage of Mortality from Respiratory Diseases, with Deaths after Fifty-five Years of Age Excluded.*

—	Phthisis.	Other respiratory diseases.	All respiratory diseases.
All adult males	13·8	10·6	24·4
Telegraphists	46·6	12·9	59·5
Grinders (cutlery)	33·1	24·2	57·3

TABLE B.—*Showing Comparative Percentage of Mortality from Respiratory Diseases, all Ages from 15 up to 65.*

Ages.	All males.	Telegraphists.	Grinders.
15 to 25	3·5	18·4	4·3
25 to 35	4·9	23·1	8·3
35 to 45	5·3	12·0	13·6
45 to 55	5·3	4·3	17·7
55 to 65	5·4	0·5	13·4
Over 65	8·2	0·5	6·7
All ages	32·6	58·8	64·0

Mr. Hull further said that he suspected that many telegraphists suffered from a modified form of chorea consisting of a twitching of the fingers in accordance with the telegraphic symbols of the alphabet.

GOFF *v.* GOFF AND GORDON.

WE do not comment upon this case because Dr. Bruce Goff, who has recently obtained a divorce from his wife under circumstances which have been fully detailed in the lay press, happens to be a medical man, but because an accusation was brought against him by his erring wife, one which, had it received the credence of the jury, would have properly ruined his professional career. Mrs. Goff's counsel admitted the indiscretion of his client's conduct and the mendacity of her letters, while all the evidence showed that excellent opportunities were given to the co-respondent, a man with a significant past, to go all lengths with her; but counsel was instructed to deny the commission of adultery and to accuse Dr. Goff of performing illegal operations upon the respondent for the prevention of pregnancy. Such a deed, though it would not have been an excuse for adultery, would have most certainly palliated in an outraged wife some actions of resentment or reprisal and would, therefore, if proven, have much embarrassed Dr. Goff in his attempts to obtain legal relief. The jury with no hesitation whatever, while finding the respondent and co-respondent guilty of adultery, acquitted the petitioner of the odious act of cruelty to which his wife stated that she had been compelled to submit. We sympathise with Dr. Goff in the painful publicity to which his domestic life has been exposed and in the severe interpretation which was put by the learned judge upon his unwillingness to believe the woman he had married to be utterly unworthy and vicious; but we congratulate him heartily upon the verdict that exonerates him from the disgusting charge of procuring criminal abortion upon his own wife.

ANÆSTHETICS AND UNREGISTERED DENTISTS.

DR. R. C. BUIST of Dundee recently wrote a letter to the General Medical Council with reference to the practice of registered medical practitioners administering anæsthetics for dental practitioners not on the Dentists Register, and received the following reply from the Registrar of the General Medical Council:—

"That the members of the Dental Committee agree with the opinion expressed by the Executive Committee that the practice referred to in Dr. Buist's letter is most reprehensible, and recommend that if a charge of 'covering' in connexion with such administration of anæsthetics were brought before the General Council it should be entertained and investigated."

We take it that this recommendation really amounts to a guarantee that such a charge, if brought, would be investigated. It may be said that if registered medical practitioners are prohibited from administering anæsthetics this function will be performed by unregistered practitioners and the risk to the patient, never a negligible quantity, will be proportionately increased. We do not, however, think that this is a danger of which it is necessary to take serious account. Administration of an anæsthetic by an unqualified person is too risky an operation for either the dentist or his assistant to undertake and the probabilities are that he will either operate without an anæsthetic, which will not tend to increase his practice, or will send his patient away to some other practitioner.

HÆMOPHILIA.

IN the July number of the *Birmingham Medical Review* Dr. E. A. Sadler gives an interesting account of a family two generations of which suffer from hæmophilia, the preceding generation having apparently been exempt. The present head of the family is a widow, sixty years of age, living in Ashbourne, Derbyshire. Her husband died about three years ago from senile decay. They were, as far as they knew, quite unrelated before their marriage, thirty-seven years ago, before which time the woman (who, like her husband, comes of a family long established in the district) worked hard in farm service. She has had 16 children, 3 of whom died from infantile complaints in the first few days of life. The remaining 13 comprise 8 boys and 5 girls, the eldest of whom (a boy) at the age of three years, when apparently in perfect health, fell and bit off the tip of his tongue; the bleeding could not be stopped and death occurred on the fourth day. The next two sons and their children have not shown any tendency to the diathesis, nor has the fourth son. The fifth son died at the age of three months from "sunstroke." The sixth son was noticed to become bruised very easily at the time of his first attempts to walk. When he was nearly seven years of age the cutting of a tooth led to hæmorrhage which proved fatal

after a week's duration. The seventh son, now aged twelve years, has never bled or bruised. The eighth boy early developed the tendency to bruise, but it is diminishing year by year. He has had several troublesome attacks of epistaxis. The joint affection of hæmophilia first showed itself in him at the age of three years. He has had repeated attacks since and they always begin suddenly in the night. The well-known fact that the girls of a family do not themselves exhibit the hæmorrhagic tendency, but that they transmit it to their male children, appears in the present instance. Both the first and second daughters have always been perfectly healthy; they are married and have had each two boys; three of these children are alive and present marked hæmorrhagic symptoms, the remaining one died at the age of three years from a combination of epistaxis with bleeding from the ears and mouth.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

WE report elsewhere the proceedings of the meeting of the council of the above fund which was held on Wednesday and which was presided over by Sir Sydney Waterlow, Bart., in the unavoidable absence of the Lord Mayor. The meeting was well attended and the council refused to be much discouraged by the fact that they have £5000 less to distribute than in the previous year. Sir Sydney Waterlow is doubtless right in regarding the smaller collection, and that also of last year, as due directly to the temporarily distracting influence of the Prince of Wales's Fund. It will be noted that Sir Henry Burdett does not accept Sir Sydney Waterlow's theory of the deficit. When such doctors differ it is a pity that the council did not accept Dr. Glover's suggestion, and ask its Distribution Committee to investigate and report on the causes of the diminished collection. It is certain that His Royal Highness the Prince of Wales would be the first man to regret that his fund should in any way interfere with the success of that Hospital Sunday Fund of which he is himself vice-patron.

PUBLIC LAVATORY ACCOMMODATION FOR WOMEN AND CHILDREN.

A CORRESPONDENT recently wrote to the London County Council pointing out the imperative need which exists in many parts of the metropolis for further free lavatory accommodation for women and children and suggesting that buildings of this description were urgently needed at among other districts the Elephant and Castle. A copy of this letter was forwarded to Dr. Waldo, the medical officer of health of St. George's, Southwark, who made a special report to his vestry on the subject, in which he drew the attention of the vestry to the fact that he had urged the construction of new public lavatories in his reports for 1895, 1896, and 1897. At the present moment there is only one public lavatory for women—namely, that situated in New-alley near the parish church. Plans have been passed by the vestry for the erection of one additional lavatory for men only at the Obelisk and lavatories for both sexes at the junction of the Old and New Kent-roads. As regards accommodation for women alone tenders have been received for the construction of two—at the junction of the two Kent-roads and near the new public library respectively. Dr. Waldo, however, considers that even when these three have been built there will still be need for more owing to the density of the population. There can be no doubt as to the paramount necessity for conveniences of this kind. The want of them—and undoubtedly there is a great want in our overgrown city—is a fruitful cause not only of danger to health but of offences against decency. But we are not so sure that they should be provided by local efforts. Surely their cost should be a charge upon the whole of London, even as the buildings are used by the population of the whole of that city.

THE REPORT OF THE SELECT COMMITTEE ON PETROLEUM.

WE have received the report of the Select Committee on Petroleum, and propose to give the subject the full attention which it deserves at a later date. Meanwhile we may say that the Committee held 53 sittings and examined 85 witnesses, the latter including scientific experts, traders in and manufacturers of both oil and lamps, and public officials. The final recommendations of the Committee included the following points. That the flash point should be raised to 100° F.; that there should be statutory powers to enable the Secretary of State to issue orders affecting the manufacture and sale of lamps; and that information should be spread among the public as to the nature of petroleum and the management of petroleum lamps.

HAMPSTEAD HEATH EXTENSION.

ABOUT £4000 is still required for the completion of the purchase of the Golder's Hill Estate, adjoining Hampstead Heath, and seeing the great boon which the acquisition of this site would confer upon the metropolis we trust that the money will soon be forthcoming. It is confidently hoped by the committee in charge of the fund that they will be able to hand the control of the estate over to the London County Council within the next four weeks and the Council will then decide whether the house and gardens shall be retained as part of the park and dedicated to the use of the public. A scheme, which certainly merits careful consideration, is on foot to turn the house into a natural history and botanical museum in connexion with the Council's technical education work, and the conversion of the gardens and rosery into a botanical garden for students and the public.

THE DEATH OF PRINCE BISMARCK.

THE death of the real founder of the modern German Empire removes from the purview of this world the most prominent figure of the latter half of the present century. With general politics we are not concerned, and it is a happy coincidence that at the time of the death of him who wrought so sore a blow to France a congress should be sitting in Paris discussing the internationally important question of tuberculosis, a disease the real nature of which was first made clear by the researches of a German. Bismarck died in his eighty-fourth year after a life of the most unremitting toil in both mental and physical fields, but his enormous store of vitality enabled him to undergo and recover from fatigue which would have broken down an ordinary man. He could always eat, drink and sleep and so was enabled to recuperate very quickly, a faculty he showed with that other great leader of men, Gladstone. Like so many great men, Bismarck lived too long for his own happiness and glory. He found Germany a collection of petty principalities and powers; he made it a mighty empire, with its foundations, according to the old mediæval rule, consolidated and laid in blood; but inasmuch as the building was greater than a mere bridge or dwelling-house, so was the sacrifice not merely that of a dog or even a human being but of thousands of men, millions of money and the tears of two nations. Of his methods we need say nothing here; suffice it to say they were successful. But as is inevitable when two strong wills clash and the one is the ruler and the other the subject, it is the subject who has to yield. Bismarck brought the German Emperor into being, and, like Frankenstein, his creation overcame him. There is no need to dwell upon this: let us only remember him as a master statesman,

a man of unswerving will, a faithful and devoted servant to his country, who gave his whole life to forwarding her interests.

THE EDINBURGH UNIVERSITY CLUB.

THIS club held its August dinner at the Café Royal under the presidency of Dr. Aldren Turner, who, in proposing the toast of the evening, "Prosperity to the Club and our Alma Mater," spoke very clearly of the continued prosperity of the University in spite of the growing competition of other schools and the increased stringency of the preliminary examinations in the Scottish universities. Professor Chiene was present, to the obvious delight of the members, and enlivened the proceedings by several anecdotes and by his speech in proposing the health of the chairman. The guests included Mr. Bland Sutton who replied to the toast of their health, proposed by Dr. Glover.

FOREIGN DEGREES.

MR. J. W. SIDEBOTHAM, M.P. for the Hyde division of Cheshire, has introduced a Bill into the House of Commons which was read a first time the other day. The Bill, which is a short one of five clauses, makes it compulsory for every person who attaches to his name the degree of Bachelor, Master or Doctor in any faculty in which degrees are granted —unless such degree has been received from a British university or from any authority in the United Kingdom which confers degrees by virtue of a Royal charter or by the sanction of the Crown or of Parliament—to clearly indicate the source from which such degree has been received under a penalty of forty shillings and costs. The term "degree" shall mean and include any letters or abbreviations which are commonly used to signify the degree of Bachelor, Master or Doctor of any faculty in which degrees are granted. This Bill is evidently drawn on the same lines as the Medical Act—i.e., to enable persons to distinguish between true and false degrees. It is good as far as it goes, but it does not go far enough. The gentleman who calls himself M.D., U.S.A., or D.D. of the National University of Chicago, will still continue to deceive the ignorant and foolish, neither, so far as we can see, will it affect the ingenious persons who put M.B. after their names and when challenged say they do not mean that they are Bachelors of Medicine but only Medical Botanists. If a "degree" is received from no source at all it is impossible to indicate a source. However, the Bill is a step in the right direction.

THE NATURAL HISTORY MUSEUM.

IT is announced that the trustees of the British Museum have appointed Professor E. Ray Lankester to be director of the Natural History Department in the room of Sir William Flower, who retires at the end of September. We sincerely congratulate Professor Lankester upon this newly-conferred honour, all the more because, though not a medical man himself, he is the son of one and the brother of others and because his scientific pursuits have been so directly ancillary to medicine. He has been a Radcliffe Travelling Fellow of the University of Oxford and is well known as the writer of various works upon zoological and biological science. More and more as knowledge increases do we find light thrown upon pathological processes, solutions—or, at any rate, a clue to them—of various medical problems, and explanations of puzzling questions by a reference to biology. The birth, the progress, the degeneration, and the death of the organism, from the highest to the lowest, is in miniature the replica of the life-history of the race; the phylogeny is set forth in the ontogeny. So we physicians and surgeons—for whom with all our knowledge so much still exists which is dark—owe a debt of gratitude to those who have devoted their lives to the study of biology, and such a one is Professor Edwin Ray Lankester. His appointment is a guarantee that the reforms set on foot by Sir William Flower will in no way deteriorate in the hands of his successor and that the magnificent collection housed in South Kensington will be kept up to, if not exceed, its present pitch of excellence.

INCISION AND DRAINAGE OF PULMONARY CAVITIES.

AT a meeting of the Royal Academy of Medicine of Turin, reported in the *Gazzetta degli Ospedali* of July 17th, Dr. Bozzolo described two cases of successful surgical treatment of tuberculous cavities of the lung. One of the patients was a boy, eleven years of age, who in August, 1897, was found to be suffering from a cavity in the lower part of the right lung, and on whom an operation was performed by Professor Carle in the following December on account of threatening pulmonary gangrene. The Roentgen rays showed that the heart was displaced to the left and that the base of the thorax was dark, as if from localised empyema, but exploratory punctures gave no result. At the operation pleural adhesions were found, the lung was dense, and the cavity was deep and was situated higher than percussion seemed to indicate. The cavity was drained; the patient recovered rapidly and is now quite well. The second case was that of a man, thirty-six years of age, a brother of whom had died from tuberculosis. In March, 1897, he suffered from cough, fever, bronchial catarrh, weakness and emaciation, and could lie only on his left side or on his back. There was a cavity in his right lung and his expectoration was purulent, but Koch's bacilli were not found. The lung was incised but no adhesions were met with, and the man nearly died from pneumothorax succeeding the operation. Two months afterwards a larger and higher incision was made, firm adhesions being encountered. Exploratory punctures after many attempts resulted in the discovery of a small cavity containing pus, situated at some depth and communicating with another larger one. Drainage was followed by complete recovery. Both of these patients were present at the meeting.

SMALL-POX AND VACCINATION IN THE ESTON URBAN DISTRICT.

ESTON is an urban sanitary district on the south of the Tees and a little eastward of Middlesbrough, and it apparently derived its small-pox infection from the same menagerie from which, it is largely believed, the Middlesbrough outbreak started. There have been up to the date of the report which Dr. G. C. H. Fulton, the medical officer of health of Eston, has just presented to his sanitary authority 23 cases, and of this number of patients 20 were vaccinated and 3 unvaccinated. The fatality-rate amongst the vaccinated was 15 per cent. and amongst the unvaccinated (3 cases only) 100 per cent. Eston is stated to be a well primarily-vaccinated community, and this statement, though the total number of cases is small, is borne out by the fact that amongst those attacked there were but 2 under the age of ten years. No person who had been re-vaccinated contracted the disease nor did anyone who was brought in contact with the patients at the hospital. In contrast with this immunity Dr. Fulton mentions that at a neighbouring hospital under his care the only persons brought in contact with the patients who contracted small-pox were three who had not been revaccinated. Fortunately at the beginning of the outbreak isolation accommodation was in readiness, and vaccination and revaccination of the whole district were quickly arranged for. The inmates

of infected houses were quarantined for a fortnight and all those who had been exposed to the disease were at once vaccinated. Dr. Fulton reports that the modifying influence of vaccination on those attacked was very obvious, the eruption abating early and there being an almost total absence of secondary fever.

OVERCROWDING IN RAILWAY CARRIAGES.

THE question recently asked in Parliament by the Member for East Northampton on the overcrowding of railway carriages which prevails at certain hours of the day on London and suburban railways calls attention to an evil which has long been crying for remedy. Those whose lives are passed in the country or in the smaller provincial towns of England can have no conception of the condition of the suburban railways of London between 5 and 7 o'clock in the afternoon from Monday to Friday, for no other town in England relies so much on railways for intercommunication between its various districts. In no other town are the distances to be traversed so great, and in no other town is the travelling public so enormous. How is that public to be carried? That is the problem which the companies have to solve and it is not too much to say that hitherto they have for the most part entirely failed to solve it. During the busy hours of the day on the District, the Metropolitan, and the North London Railways, to name only a few examples, the passengers in third-class carriages are packed in their compartments in a manner in which it would be illegal to pack cattle. Let anyone stand on the platform at Charing-cross or Victoria on the "Underground" Railway and examine the trains going westward as they enter and leave the station at about 6 o'clock and he will see compartment after compartment crowded in a manner which is fatal to comfort and most inimical to health. The air space of a third-class compartment on the "Underground" Railway is by no means excessive for the ten passengers whom it is "constructed to seat." If to these be added the five passengers standing up and absorbed in the desperate effort to maintain their equilibrium as the train sways to and fro, a state of things is disclosed which calls for the interference of some humane or philanthropic society if not of Parliament itself. We admit the difficulty of the task which the railway companies have to perform. There must be great pressure of traffic at certain hours of the day when all the world is hurrying either to or from its business. It is easy to reply offhand that the companies must run more trains or longer trains, but—at least, as far as the District Railway is concerned—there are very serious practical and financial difficulties in the way of any change in either of these directions. On the busiest section of this line no more trains could be run with safety. They already follow one another as closely as the conditions of working will permit and the interval of time allowed between each train could hardly be further reduced without risk of disaster. The running of longer trains, on the other hand, would require longer platforms and the cost of that improvement is considered by the company to be prohibitive. Railway companies, after all, must consider their dividends. Here, then, we have an *impasse* and the only way out of it seems to be to build more railways. This is now being done as rapidly as may be. The Waterloo and City line which has just been opened will do something, though not much, to relieve the congestion of traffic on the District Railway between Charing-cross and the Mansion House, while the Central London Electric Railway, when it is opened, will do the same for a considerable section of the Metropolitan. But experience has shown that the opening of new suburban railways in London, far from relieving the traffic at the centre, rather tends to increase it. The greater the facilities for travelling from the suburbs to the City the more people flock to the suburbs and by consequence the greater the pressure of traffic upon the railways during the hours when men are going to and from their business. It is a question, therefore, whether even legislation itself can find a way out of the difficulty in which these railways are placed during these hours. In one thing, however, these railway companies seem to us to have failed in their duty to the public in this question of overcrowding. They do not appear to have reckoned with the enormous growth of Sunday travelling in London in recent years. At certain hours of the day on Sundays on many of our local lines there is a pressure of traffic which the companies not only do not attempt to meet but seem determined to ignore. For this there can be no possible excuse. It is absurd that railway companies should run fewer trains on Sunday than on week-days unless they are sure of carrying fewer passengers, and it is the business of the officials to see that the trains on that day are not so far reduced that they cannot comfortably accommodate the traffic which every Sunday brings them. This is not a case of accidental overcrowding on one or two days in the year due to exceptional circumstances, but of a constant and apparently deliberate refusal on the part of the companies to provide proper accommodation for the regular needs of the day. It is unnecessary for us to point out here how entirely contrary to the first principles of hygiene such overcrowding is and how essential it is that it should be avoided as far as possible. The growth of Sunday travelling in London may or may not be a good thing, but that is a question with which the railway companies have nothing to do. Their duty is to provide reasonable accommodation for those who wish to travel. A railway company cannot be permitted, either from indolence or a desire for larger dividends, to ignore this duty wherever it is possible to perform it.

THE FOOL ON A CYCLE.

IN spite of the object lessons which inquests on cyclists give and in spite of police prosecutions the number of cycling accidents increases, while it is evident that the majority of the casualties follow upon reckless riding. The commonest cause of disaster is, of course, want of caution in descending hills. The effort of the National Cyclists' Union to prevent accidents by placing notice-boards at the top of all dangerous hills is treated with contempt by many cyclists, who regard such boards as a playful invitation to put up their feet and "coast" to the bottom. In a recent inquest held at Hull the coroner, Mr. Luke White of Driffield, is reported to have said that if cyclists persisted in disregarding notices which were exhibited for their personal safety it might be necessary for the protection of the public to require all cyclists to dismount on going down hills which were marked "dangerous" and to inflict a heavy fine in every case where the notice was disregarded. We quite agree with Mr. White. "Put a fool on a cycle and he will ride to destruction," makes a very good reading of an old saw and describes a situation which we can regard with equanimity. But when the fool on his way to his proper destination thinks well to smash into other people it is time to put a limit to his folly.

IN the presence of a great sorrow sympathy, however well intentioned, is all too inadequate and yet it is the only thing which can be offered. The profession is well acquainted by this time with the sudden and heartrending calamity which has overtaken Mr. Henry Power and his family in the death of his daughter and granddaughter by drowning. They were swept off the east pier at Whitby by a wave of unusual size and height and owing to the state of the sea all efforts to save them proved useless. Mr. Power himself made an heroic effort, but all unavailingly. His

daughter, Miss Lucy Power, will be known, by name at any rate, to most of the profession owing to the portrait painted by her of her father which was exhibited in the Academy of 1897. We are certain that these few words in which we express our heartfelt sympathy with the relatives of the deceased will be only giving expression to the general feeling of the medical profession of which Henry Power has for so many years been a prominent member. Specially does this apply to members of St. Bartholomew's Hospital, where he is, though no longer an active member of the staff, lovingly remembered in the wards and the lecture theatre.

DR. J. P. STEELE, for many years a contributor to THE LANCET, mainly in the field of Italian medicine past and present, has had since May last to suspend his contributions owing to a severe accident to his left eye. No effort was wanting, first on the part of Dr. Pereyra of Florence and then of Professor Haab of the Zürich School of Medicine, to save the injured organ, but after some weeks of skilful and steady treatment it was found that the lesion, mainly in the ciliary region, could not be repaired and that sympathetic inflammation was threatening the sound eye. Enucleation was therefore resorted to and successfully performed by Professor Haab in his private clinique at Zurich on July 6th, since which date Dr. Steele has made complete recovery, the right eye being now out of danger, affording every probability of his early resumption of work.

AT Leeds Assizes on July 29th Henry Yeo, editor of a local paper called *Spy*, published in Manchester, was sentenced to twelve months' imprisonment with such hard labour as his health would allow for publishing libels concerning Mr. W. Bevan Lewis, medical superintendent of the Wakefield Asylum. The prisoner's wife, who was indicted for circulating the libel, was bound over.

THE treasurer of Guy's Hospital has received an anonymous donation of $6000 from one who listened to Mr. Balfour's speech on the occasion of the distribution of prizes in the Medical School, with a request that the governors would use the sum for the purpose of the endowment of medical research.

DR. J. C. THRESH, Medical Officer of Health to the Essex County Council, has been appointed Lecturer on Public Health at the London Hospital Medical College. The new laboratories and public health museum now being provided at this college will be ready by the commencement of the winter session.

AT Netley Hospital on July 29th a beautiful tablet erected to the memory of Sir William Mackinnon, late Director-General, by the medical officers of the British Army, was unveiled without ceremony.

KING'S LYNN.—On the reappointment of Dr. C. B. Plowright as medical officer of health the Freebridge Lynn Rural District Council raised his salary from £82 10s. to £100 per annum. The District Council also resolved that steps should be taken to add, if possible, phthisis to the list of notifiable infectious diseases.

SANITARY INSPECTORS' ASSOCIATION.—The annual meeting of the Western Branch of the Sanitary Inspectors' Association was held at Exeter on July 16th. A public meeting took place after the annual meeting at the Guildhall, at which the Deputy Mayor presided, supported by Dr. Woodman, Dr. Kempe, and Dr. Pickard. Mr. Cameron contributed an interesting paper on the Treatment of Sewage by the Septic Tank System. A public luncheon followed, which was numerously attended.

THE BRITISH PHARMACOPŒIA.

VIII.[1]

CONCLUSION.

IN our second article we referred to some of the more important changes in strength and dosage. A change has been made in the most active and important group of Galenical preparations with which the practitioner should be familiar. The following liquors are now made with the intention of being 1 per cent. solutions—viz., Arsenicalis, Arsenici Hydrochlor., Atropinæ Sulphatis, Morphinæ Acetatis, Morphinæ Hydrochlor., Morphinæ Tartratis, Potassii Permanganatis, Strychninæ Hydrochlor., Sodii Arsenatis, and Trinitrini. Though these liquors are in reality 1 per cent. solutions, owing to the difference between the minim and the avoirdupois grain they contain 1 gr. of the active ingredient in 110 minims and not 1 gr. in 100 minims as the practitioner is too apt to imagine when dealing with 1 per cent. solutions. They are made by dissolving 1 gramme of the active ingredient in 100 cubic centimetres of solvent. The introduction of the metric system into the British Pharmacopœia does not appear to make the time of its final acceptance in this country any nearer. Practitioners stand in relation to it exactly where they did and it remains to be proved that this laudable intention of the revisers will popularise the new system with the dispensing chemist. Unquestionably the revisers should have gone much further or else left matters as they were. If they had wished to gradually accustom the prescriber to the use of metric weights and measures one way was open to them which they have not thought it desirable to follow. This was to give the dose of every substance and preparation in equivalents of the metric system in addition to the avoirdupois or imperial system. Mr. Martindale has, however, accomplished this in his last edition of the Extra Pharmacopœia with much labour and accuracy.

We would advise the practitioner to take a note of the following important *increases* in the strengths of preparations: Tinctures of belladonna, nux vomica, and podophyllum, 100 per cent.; tincture of quassia, about 270 per cent.; blistering liquid, 100 per cent. Discs of cocaine, and the tincture of chloroform and morphine are four times stronger; spirits of cajuput, cinnamon, peppermint, nutmeg, and rosemary are five times stronger; and pill of phosphorus is increased by 80 per cent. in strength. Of the notable *diminutions* in strengths he should specially note tincture of aconite, 60 per cent.; tincture of strophanthus, 50 per cent.; injections of apomorphine and of morphine, 50 per cent.; suppositories of morphine, 50 per cent.; alcoholic extract of belladonna, 66 per cent.; nux vomica, 33 per cent.; Calabar bean, 75 per cent.; liquid extract of opium, 25 per cent.; and chloroform water, 50 per cent. weaker.

The following important changes in the names of Galenical preparations should be carefully noted, otherwise serious mistakes may arise in prescribing and dispensing. The old Linimentum Iodi was prepared by dissolving 2½ oz. iodine and 1 oz. iodide of potassium and ½ oz. glycerin in 20 oz. rectified spirit. It is now called *Liquor* Iodi Fortis and has its composition slightly altered. It is made by dissolving 2½ oz. iodine and 1½ oz. iodide of potassium in 2½ oz. distilled water and 18 oz. 90 per cent. alcohol. The 1885 British Pharmacopœia Liquor Iodi was about one-third of the strength of this. It is now omitted, and notwithstanding the omission the revisers have thought proper to append the adjective *fortis* although there is now no weak iodine liquor official. It should be noted that it is about four and a half times the strength of the tincture. The omission of glycerin from its composition is a decided advantage. In the 1867 Pharmacopœia it was of about the same strength, but it contained camphor (½ oz. in 20 oz.); in the 1885 revision this was omitted and for some unknown reason glycerin was added. The present revisers have wisely omitted this and their action affords another example of how thoroughly they have reversed the decisions

[1] Articles I., II., III., IV., V., VI., and VII. were published in THE LANCET of April 16th and 23rd, May 7th and 28th, June 18th and 25th, and July 9th, 1898, respectively.

of the committee which was responsible for the preparation of the 1885 Pharmacopœia and the additions of 1890. The next British Pharmacopœia will probably see this Galenical again altered in its formula, as we suspect that it contains too much iodide of potassium.

Ergotinum of the 1885 Pharmacopœia was defined as "purified extract of ergot, commonly called Ergotin, Ergotine, or Bonjean's Ergotine." It is now called Extractum Ergotæ with the synonym Ergotin and appears in the new volume amongst the Extracts, and minute directions are given for its preparation from powdered ergot by treatment with alcohol, water, diluted hydrochloric acid, and sodium carbonate. The old dose was given as 2 to 5 gr., a quantity, in our opinion, large enough for all ordinary purposes; the new dose is stated as 2 to 8 gr. The old ergotin was simply prepared by evaporating the official liquid extract of ergot on a water-bath till it became of a syrupy consistence, when rectified spirit was added and after filtering, the evaporation was continued till the consistence of a soft extract was reached. It is just possible that the radical change made in the process of manufacture may justify the increase of the dosage. In consistency with the change in the nomenclature of ergotin the hypodermic injection is now altered to Injectio Ergotæ Hypodermica and its composition is changed by the addition of a small quantity of carbolic acid, and though its strength is slightly altered the dose remains as before—3 to 10 minims—though this dosage is altogether out of proportion less than that given for ergotin. Thus the maximum dose of ergotin in the injection is 3·3 grains (and this preparation is the one selected in urgent or desperate cases), whilst 8 grains may be given of the ergotin.

Linimentum Camphoræ Compositum is now to be known as Linimentum Camphoræ Ammoniatum with the old name retained as a synonym. Though it is not apparently intended by the revisers, its strength will be found to be appreciably increased, because in the old formula 2½ oz. camphor and 1 drachm oil of lavender were dissolved in 5 oz. strong solution of ammonia and 15 oz. rectified spirit. This solution made a liniment of about 1 in 9. In the new formula the same ingredients are used in the same quantities, only the spirit is added in sufficient amount to make the finished liniment measure only 20 fluid ounces, which represents a strength of 1 in 8 of camphor. A glance at the new formula will show one of the marked changes running through the volume—i.e., the omission of the absurd plan of "fluid parts" introduced into the 1885 Pharmacopœia; we are unfeignedly pleased at the omission. Pilula Asafœtidæ Composita is now to be known as Pilula Galbani Composita, with the remarkable official synonym "Compound Pill of Asafetida," *not* Pil. Asafetidæ Co. The nomenclature of the new British Pharmacopœia defies criticism or explanation the more we look into it. Thus, running all through the volume we have headings in full Latin whilst the English immediately underneath, though presumably a translation of the heading, is often anything but a literal translation, for example—Hydrargyri Iodidum Rubrum—Mercuric Iodide; Ferri Sulphas—Ferrous Sulphate, &c. Criticism is disarmed by the statement in the preface—viz., "It has been thought desirable to adopt certain well-established changes in chemical nomenclature, though not in such a manner as to occasion inconvenience to prescribers and dispensers. No general alteration, therefore, has been made in the Latin titles, but the English titles of chemical substances have in many instances been modified. These English titles therefore are not as a rule literal translations of the Latin ones." There was one plan open to the revisers by which this violation of custom and outrage upon a dead language might have been avoided—they might have given a literal translation of the title and in each case inserted their "well-established change in chemical nomenclature" as a *synonym*. The synonyms might with little objection have been employed throughout the body of the volume as in the formulæ and the various processes; this would have met every difficulty and obviated what has universally been regarded as a blot upon the literary aspect of the work.

There is still much confusion and real difficulty about one vital point—When does or when did the new British Pharmacopœia actually come into force? We find that no provision was made for this and some druggists still continue to dispense the prescriptions of practitioners by using the preparations of the old Pharmacopœia. Many druggists have sent out notices to the medical practitioners in their districts that on and after a certain date the new British Pharmacopœia will be used for all new recipes, but no uniform practice has been adopted. The licensing bodies and some of the universities have already issued printed information for intending candidates stating that all questions in the approaching autumn examinations in Materia Medica may be answered from the old Pharmacopœia. A sufficient time has now elapsed for every druggist to be supplied with the new Galenical preparations and we hold it to be incumbent upon every medical man to make himself familiar with the numerous changes and to write for some months to come upon his recipes either the words B.P. 1898 or B.P. 1885 after each preparation the strength of which is materially altered. In this way with little trouble errors may be entirely prevented. From what we have pointed out our readers will see that though there may be differences of opinion upon many points of detail in the revision of the British Pharmacopœia, we can only repeat what we have already stated—viz., that the revisers have made an honest and in the main a successful attempt to raise the standard of the work, and in conclusion we tender them the thanks of the medical profession for their labours.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE thirty-first sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Monday, July 25th. With the exception of Sir George Barclay Bruce all the Commissioners were present. The whole of the sitting was occupied by the examination of Mr. Reginald E. Middleton, who appeared to give "expert evidence" on behalf of some of the water companies. At the commencement of the proceedings Mr. PEMBER, Q.C., on behalf of the Metropolitan Water Companies, asked the Chairman if he would examine the witness fully with regard to some of the details contained in the printed statement which he had put in. On behalf of the water companies Mr. Pember said that they wished to establish what he might term a "constructive case." The evidence now tendered and that which he proposed on behalf of his clients to bring forward at future sittings was intended not merely as a criticism of the case so ably brought forward by the London County Council. The water companies wished on their part to state what their own policy was if they were allowed to continue to supply their authorised area with water on the statutory conditions which at present existed. Amongst the points in the statement of Mr. Middleton to which he wished especially to call the attention of the Chairman and of the Commissioners were, in the first place, the estimate with regard to the probable increase of the population of "water London"; and, secondly, that they were of opinion that not only could 300,000,000 gallons of water be obtained daily from the Thames but that the river could supply a greater quantity should it be required; thirdly, it was part of the case of the metropolitan companies that the state of the Thames had improved with regard to purity. With regard to the quantity of water which could be derived from the Thames he contended that the present authorised supply of 185,500,000 gallons could without detriment to the river not only be increased to 300,000,000 gallons daily, but it seemed possible that not less than 400,000,000 gallons daily could be obtained should occasion require.

The CHAIRMAN proposed that Mr. Pember should examine the witness himself, but that counsel suggested that as in the case of the witnesses of the London County Council the examination-in-chief had been conducted by the Chairman and the Commissioners it might be better if the same course were adopted in the present case. The CHAIRMAN said that the mass of figures and the number of tables given in Mr. Middleton's statement were extremely puzzling, especially as some of the tables were not drawn up on the same lines as those which had previously been before the Commissioners. In the course of the proceedings which followed it may be here remarked that consecutive questions were occasionally asked by different Commissioners on different tables and the impressions as to the evidence given varied greatly, as may be learnt from a perusal of the reports which have appeared in the daily papers.

Mr. MIDDLETON was first examined by the Chairman with regard to the future population of London. The witness pointed out that Lord Balfour's Commission did not commit

themselves to any statement as to what the population would be in the year 1931: they had said that in their opinion it would be more than 11¼ millions. In the opinion of the witness the population would almost certainly be less than this, and if he were right in this conclusion the present sources of supply would amply provide a sufficiency of water for a longer period than that for which the estimate was made. A population of 5,732,950 in the year 1891, quoted in the report of Lord Balfour's Commission, was that for "Greater London" and exceeded the population supplied by the metropolitan companies at that date by over half a million. The present rate of increase in "water London" appeared to be about 15·53 per cent. per decennium. If this rate were adhered to the population in 1931 would be 9,274,046 and in 1937 10,164,349. The amount of water necessary for the supply of this population would be about 356,000,000 gallons daily, or 51,000,000 gallons in excess of the amount for which provision is now being made or construction authorised. With regard to the quantity of water which could be taken from the Thames the witness said that he was of opinion that an amount much in excess of 300,000,000 gallons daily could be obtained without injury to the river. The witness further said that he thought 400,000,000 gallons daily could be taken without injury.

In answer to Major-General SCOTT the witness said that in his opinion that amount could be taken without injury to other parts of the Thames basin.

In answer to Mr. PEMBER, Q.C., the witness said that that quantity could be taken without reducing the flow of the river below an amount of 200,000,000 gallons daily.

The Right Hon. J. W. MELLOR asked the witness whether he had taken any account of water which might be wanted by outside authorities. The witness replied that if the water were taken from wells it would not deplete the Thames and in answer to a further question from Mr. Mellor he said that the abstraction of water from wells would not in his opinion affect the flow of the Thames water.

The CHAIRMAN asked the witness whether the abstraction of the water from wells in the valley of the Lee affected the flow of that river. The witness, in reply, said that in isolated cases the abstraction of water from wells had diminished the flow of water in the river.

Mr. MELLOR asked the witness whether he had taken at all into his calculations the effect that might happen if water were required for the supply of a population situated in the higher parts of the Thames valley, and the witness replied that he had not taken it into calculation at all.

In answer to the CHAIRMAN the witness said that he did not believe that pumping from wells in the Lee valley had any sensible effect. The wells at Ware, which were situated on a bed of gravel, were sometimes pumped down. Three wells were slightly affected but they were not pumped dry.

The CHAIRMAN pointed out that the Commissioners had examined Sir John Evans, who had given evidence with regard to the wells in the Lee Valley, and that the witness had said "that the well at Haileybury College is pumped down." The witness said that he did not believe that statement.

The CHAIRMAN pointed out that they had had a witness before them who said that he could substantiate the statement and that Sir John Evans had also said that "the flow of the Ash, Rib, Quin, and Beane tributaries of the Lee had fallen off." The witness said that this statement was not correct.

Major-General SCOTT suggested that if pumping lowered the water in wells it would have an effect on the flow of a river.

Mr. PEMBER, Q.C., pointed out that the witness admitted that here and there such a thing might happen, "but in a general way no."

In answer to Sir JOHN DORINGTON the witness said that he had heard the evidence which Sir John Evans had given to the Royal Commissioners and that the inferences which had been made from evidence which the witness had given before the Balfour Commission were not correct. With regard to the reservoirs recommended by Lord Balfour's Commission the witness pointed out that the Commissioners did not express any "insistence on Staines" as a locality, they had expressed their approval of reservoirs situated in the Thames Valley as near the intakes of the companies as possible. When Messrs. Hunter and Fraser arranged for intakes to be above Bell Weir, Staines, Sunbury, and some other places drained into cesspools. At the present time many of these places have constructed sewage disposal works.

With regard to the state of the Thames water the witness in his statement quoted the report of Sir E. Frankland as to the quantity of organic matter found in the Thames water as supplied to consumers.

Major-General SCOTT pointed out that the quality of water as supplied to consumers differed from the Thames water before filtration and that therefore the evidence which the witness put in on that point did not bear the interpretation which the witness suggested—namely, that the river itself was purer. With regard to the purity of the water in the River Thames Major-General Scott asked the witness on how many analyses the report was founded. He suggested that they were very few in number and asked the witness how he could suggest that any definite knowledge could be derived from such a small number of analyses.

Mr. MELLOR asked the witness whether he considered that the amount of organic impurity of the present Thames water was bad and the witness immediately replied, "Oh, no."

Major-General SCOTT suggested that the experiments made were haphazard and asked whether the witness seriously contended that any conclusions could be founded on them.

The CHAIRMAN pointed out that he would not like to draw any conclusions from these "fluctuating figures." What conclusion did the witness wish they should arrive at?

Major-General SCOTT insisted that the evidence was founded on very slender foundation and that no certainty could be arrived at with regard to the present as compared with the past condition of the Thames. With regard to the possible amount of water which could be obtained from the county of Kent Major-General Scott asked the witness whether he had made any investigations since the date of the Balfour Commission Report, from which he quoted. The witness said that he had not made any observations and Major-General SCOTT remarked that they, the Commissioners, could refer to the Balfour Report for themselves, and that they had had witnesses who had given evidence with regard to the present state of the water in the Kent district. The witness suggested that in his opinion wells sunk in the chalk in the basin of the Thames could, if necessary, supply a quantity of 190,000,000 gallons daily. Major-General Scott pointed out that this was quite contrary to the opinion expressed by the Balfour Commission. The witness did not give any evidence in favour of his opinion that 190,000,000 gallons daily could be supplied from wells in the chalk but said that he had made many journeys up and down the Thames, had studied the readings of the rain-gauge and had made observations with regard to the percolation of water. With regard to the storage of water the witness pointed out that at the present time the metropolitan companies were not obliged to store water in reservoirs and that they were authorised to take a considerable quantity of water and distribute it without storage. This, the CHAIRMAN remarked, "was not altogether pleasant for consumers."

After the adjournment for luncheon the witness gave evidence with regard to the cost of the Welsh scheme and gave figures which did not agree with those which had been given by Sir Alexander Binnie. The figures will be best understood by a study of the tables drawn up by Mr. Middleton, which we append. With regard to the method by which Mr. Middleton had arrived at some of his estimates the witness said that some of them were made from "analogy."

MR. MIDDLETON'S TABLE SHOWING COMPARATIVE COST OF SUPPLYING 114½ OR 123½ MILLION GALLONS FROM WALES AS ESTIMATED BY SIR ALEXANDER BINNIE AND BY HIMSELF.

SIR A. BINNIE.

Cost of obtaining by the Welsh gravitation scheme the 114½ millons, being the difference between the total 300 million gallons of the Staines scheme and the 185½ million gallons sanctioned taking of water from the Thames by the companies up to date.

	£
Yrfon yield, 121 million gallons per day—Yrfon reservoir and head works	1,850,000
Aqueduct.—162 miles in length, composed of 117 miles of covered conduit and tunnel, to carry 200 million gallons a day, and 45 miles of pipe, to carry 114 million gallons a day...	6,867,500
Terminal works at Elstree for 114 million gallons a day, exclusive of filters	1,314,750
	£10,032,250

This estimate is equivalent to that the total of which, as given by Mr. Deacon was £9,848,000, but Mr. Deacon made a proportionate reduction in the cost of the masonry and tunnel portion of the conduit to reduce it to the flow of 133½ million gallons a day, whereas I have

preferred to make those portions of the full size for 200 millons gallons a day in the first instance, as I have always based my calculations on the assumption that the Welsh project will be carried out in instalments as necessity may require. Note should be also made of the saving in pumping pointed out by Mr. Deacon in his estimate.

MR. MIDDLETON.

Cost of bringing 123½ million gallons from Wales to London calculated by analogy from the cost of the Thirlmere, Vyrnwy, and Elan Valley works.

YRFON RESERVOIR.	£
Cost of storage for the delivery of 123½ million gallons daily and for 81 miles of pipe-lines and conduit at an average cost of £91,611 per million gallons of daily supply	11,313,968
Cost of an average of 81 miles of conduit beyond that in the Thirlmere, Vyrnwy, and Elan Valley schemes to convey 215 million gallons daily at £64,000 per mile ...	5,184,000
Terminal works at Elstree	1,314,750
	£17,812,708
Add for mains between service reservoirs at Elstree and the service reservoirs of the companies	3,000,000
Add cost of pumping machinery to pump to supply 30 million gallons daily to the districts above gravitation level, equal to 2184 p.h.p. at £45 per p.h.p. ...	98,280
Total capital cost	£20,910,988
Add cost of pumping to supply the districts above gravitation level during 20 years a quantity increasing from 21·7 to 29·8 million gallons, at 30*s.* per million gallons pumped...	279,549
	£21,190,537
Add for accumulated interest	13,078,046
	£34,268,583

N.B.—If pumping charges are capitalised at 30 years' purchase a sum of £253,746 must be added, making the total £34,522,329.

Notes of difference.—Mr. Middleton's first two items—£11,313,968 and £5,184,000, total £16,497,968—approximately correspond with Sir A. Binnie's two items of £1,850,000 and £6,867,500, total £8,717,500. Sir A. Binnie has, however, included no estimate for cost of mains, pumping machinery, pumping charges, and interest. Mr. Middleton has estimated for a conduit as to 81 miles capable of carrying 123½ million gallons and as to the remaining 81 miles capable of carrying 215 million gallons per day, the total yield of the first group of Welsh reservoirs.

MR. MIDDLETON'S TABLE OF COMPARISON OF SIR A. BINNIE'S AND HIS OWN ESTIMATES OF COST OF SUPPLYING FROM THE THAMES 114½ MILLION GALLONS PER DAY, IN ADDITION TO THE TAKE OF 185½ MILLION GALLONS PER DAY ALREADY AUTHORISED, MAKING A TOTAL OF 300 MILLION GALLONS PER DAY.

SIR A. BINNIE.	£
Capacity for 114½ millions, 20,000 million gallons... ...	6,785,980
* Pumping into Reservoirs, 19,717 at 5*s.* per million gallons = £4929. Capitalised at 30 years	147,870
† Cost of pumping to supply 114½ million gallons per day = 41,792½ at £2 10*s.* per million gallons = £104,481. Capitalised at 30 years	3,134,430
	£10,068,280
Pumping machinery for distribution, reckoned on the capital sum of £1,212,300, apparently included as a total in 1941 for this purpose in the estimate of Messrs. Hunter and Fraser	816,525
	£10,884,805

* The charges for pumping to store have been capitalised on the draft during the year of greatest drought, not on the average of years as they should have been.

† This capitalisation has been made on the cost of pumping 114½ million gallons per day, which will not be reached until the year 1935; it should be, on the average, less than half that quantity. The sum so arrived at should be discounted for present value.

MR. MIDDLETON.	£
Capacity, 14,987 + 10 per cent. = 16,486 million gallons, at £218 per million	3,593,948
* Pumping into reservoirs 10,570 million gallons, average for 19 years at 7*s.* 6*d.* per million gallons = £3963 15*s.* For 19 years	75,316
* Cost of pumping to supply a quantity increasing from *nil* to 114½ million gallons per day during 19 years at £2·41 per million gallons	932,536
	£4,601,800
Pumping machinery for distribution	375,480
	£4,977,280
Note.—A sum of about £500,000 should be added to this estimate for connecting mains to the boundaries of the companies' districts, to compare with the item of £3,000,000 for connecting mains between the service reservoirs at Elstree and those of the companies in the Welsh scheme	500,000
Total	£5,477,280
* If the pumping charges be capitalised at 30 years' purchase a sum approximating to £1,682,580 must be added. (This has been done by Sir A. Binnie, but I do not concur)	1,682,580
	£7,159,860

Major-General SCOTT pointed out that the figures put in by Sir Alexander Binnie were the result of observations made on surveying the site of the proposed work. Sir Alexander Binnie's estimate for the Welsh scheme had been compared by the witness with the costs of the Thirlmere and Vyrnwy supplies and with the estimated cost of that from Elan Valley supply, and judging from the amount paid in those cases the witness said that he believed that the cost of providing 123,500,000 gallons of water from Wales in addition to the existing supply would cost a sum of about £21,000,000. On the other hand, he thought that the cost of the Thames reservoirs storage scheme to supply the same amount of water would be little over £5,000,000. To this sum of £5,000,000 must be added a further sum of £500,000 for the necessary arrangements for the conveyance of water from the Thames stations to the consumers. If an additional supply of water were derived from Wales the cost would be £22,640,800 for a supply of 135,000,000 gallons. For 172,000,000 gallons the cost would be £28,205,050, and for 215,000,000 gallons the cost would be £33,297,251.

With regard to the distribution of water from the reservoirs, which, according to the Welsh scheme, the County Council proposed to have at Elstree, the witness showed a plan of the distributing mains which he suggested should be made and gave a list of the existing service reservoirs which could be filled from Elstree by gravitation and a list of those which could not be economically filled from Elstree without the use of pumps. These tables gave in each case the top-water level of the reservoirs and their capacity. As these facts have been already given in THE LANCET it is not necessary to repeat them here, and therefore only the list of reservoirs is given, arranged in the two categories mentioned.

List of existing Service Reservoirs which could be filled from the proposed Service Reservoirs at Elstree by Gravitation.

Chelsea Company—Putney Heath.
East London Company—Woodford, Hornsey Rise.
Grand Junction Company—Campden-hill, Hanger-hill, Ealing.
Kent Company—New Cross, Plumstead Common, Greenwich Park, Dartford, Deptford.
Lambeth Company—Brixton, Streatham, Combe.
New River Company—Claremont-square, Maiden-lane, Crouch-hill, Bourne-hill.
Southwark and Vauxhall Company—Nunhead.
Middlesex Company—Campden Hill, Barrow Hill, Willesden.

List of existing Service Reservoirs which could not be economically filled from the proposed Service Reservoirs at Elstree without the use of Pumps.

East London Company—High Beech, Buckhurst Hill.
Kent Company—Woolwich Common, Chislehurst, Shooter's Hill, Farnborough (Cowlass Hill), West Wickham, Knockholt, Betsom's Hill, Westerham, Eltham.
Lambeth Company—Selhurst, Rockhills, Norwood.
New River Company—Hornsey-lane, Highgate, Hampstead, Southgate, Bush Hill, Enfield.
Southwark and Vauxhall Company—Forest Hill.
Middlesex Company—Kidderpore, Shootup Hill.

Towards the end of the sitting the CHAIRMAN asked Mr. Pember how much time the evidence submitted by the water companies would be likely to occupy, and Mr. PEMBER said that their case might be disposed of in about ten sittings. The case for the London County Council had been very fully stated and it was the wish of the companies to state with equal fulness their view of the situation.

At the conclusion of the sitting the Commissioners adjourned until November.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE summer general meeting of the above association was held on Wednesday, July 27th, at 2 P.M., in the students' reading room, Edinburgh.

In the absence of the President (Dr. MAPOTHER), who was detained in London, the chair was occupied by Dr. RICHARD HEATH (St. Leonard's-on-Sea.)

The CHAIRMAN said he was glad to see such a good muster of members notwithstanding the many attractions of the hospitable citizens of the "Northern Athens." He called upon the provincial honorary secretary to make a statement in reference to the hospital appointments question.

Mr. J. STEWART said that since their last provincial meeting another English hospital—and he was glad to say it was a metropolitan one — had rescinded the rule which had previously prevented anyone but a Fellow of the English College of Surgeons from holding a position on the

honorary surgical staff. He alluded to St. Peter's Hospital for Stone, Covent-garden. These strongholds of monopoly were gradually being reduced in number and he (Mr. Stewart) felt sure that the innate sense of justice which was so marked an element in the English character would ere long lead the governors of the remaining hospitals where the exclusive rule prevailed to open their doors to fully-qualified candidates holding the higher diplomas obtained by examination no matter in which division such diplomas had been obtained. The victories which the association had already gained at Bristol, St. Leonard's-on-Sea, Brighton, and other places were an earnest of what was before them if all those holding Irish diplomas would give a helping hand by joining the association, the membership of which now numbered nearly 750, but which ought to be over 1000.

The CHAIRMAN announced his intention of giving a donation of £10 to the Hospitals Disabilities Fund on the understanding that one of the monopoly strongholds, such as Liverpool, should be attacked by the council as soon as possible and he concluded by moving—

That this meeting hereby records its regret that so many English public hospitals have still among their regulations a rule the effect of which is practically to exclude from candidature for honorary appointments on the staff all who do not hold the diplomas of two specially favoured London colleges.

Dr. P. S. ABRAHAM proposed a vote of thanks to Mr. Stewart for his address and for the untiring efforts he had made for years to bring the monopoly question before the profession and the public.

This was seconded by Mr. JOCELYN SWAN and carried with acclamation.

A vote of thanks to the Chairman concluded the proceedings.

MEDICAL REFEREES UNDER THE WORKMEN'S COMPENSATION ACT.

THE Secretary of State has made the following further appointments of medical referees under the Workmen's Compensation Act, 1897:—

Circuit No. 3.—Dr. Roderick Maclaren and Dr. Henry Ambrose Lediard, Carlisle; Dr. George Bertram Muriel, Whitehaven; and Dr. Archibald Carmichael, Barrow-in-Furness.

Circuit No. 6 (revised list).—Mr. George Gibson Hamilton, Dr. Thomas Clarke, and Mr. Charles Stuart Pethick, Liverpool; and Mr. Robert Meredith Littler, Southport.

Circuit No. 9.—Mr. William Hugh Hughes, Ashton-under-Lyne; Dr. James Thomson Wilson Baird, Congleton; and Mr. Thomas Castley Bailey, Crewe.

Circuit No. 15.—Mr. Samuel Walker, Middlesbrough; Dr. Charles Dennis Hill Drury and Dr. Walter Petter, Darlington; Mr. Henry Hind, Harrogate; and Mr. William John Beatty, Stockton-on-Tees.

Circuit No. 18.—Dr. Ernest Stanley Nutting, Warsop; Dr. Henry Handford and Mr. Alexander Richard Anderson, Nottingham; and Mr. Simeon Snell, Sheffield.

Circuit No. 19.—Dr. Edmund Vaudrey and Mr. William Legge, Derby.

Circuit No. 22.—Dr. Frederic Thorne, Leamington Spa; Dr. Clement Dukes and Dr. Alfred Russell Darley, Rugby; Mr. Frank Faulder White, Coventry; and Mr. George Heaton, Birmingham.

Circuit No. 24 (further appointment).—Mr. Edward Treharne, Barry.

Circuit No. 26.—Mr. William Dunnet Spanton, Hanley; Mr. George Stokes Hatton, Newcastle-under-Lyme; and Dr. John Holmes Joy, Tamworth.

Circuit No. 27.—Dr. Paul Morgan Chapman, Hereford; and Mr. William Alma Aylmer Lewis, Oswestry.

Circuit No. 29.—Mr. Farington Marsden Granger, Chester; Dr. Joseph Llewelyn Williams, Wrexham; Dr. John Lloyd-Roberts, Denbigh; Mr. John Williams, Carnarvon; and Dr. Edward James Lloyd, Bangor.

Circuit No. 31 (additional appointment).—Dr. Frederick Robson, Port Talbot.

Circuit No. 36.—Dr. Frank Buszard and Mr. Robert Arthur Milligan, Northampton; and Mr. Horatio Symonds and Dr. William Collier, Oxford.

Circuit No. 38.—Dr. Robert James Banning, Shoeburyness; Mr. Murtaugh James Houghton, York-road, Ilford; and Dr. Edward Liveing Fenn, Colchester.

Circuit No. 44.—Dr. John George Garson, 64, Harley-street, W.; Dr. Fletcher Beach, 64a, Welbeck-street, W.; and Dr. George Washington Isaac, 75, Gower-street, W.C.

Circuit No. 47.—Mr. Francis James Steward, 24, St. Thomas-street, London Bridge, S.E.

Circuit No. 51.—Dr. William Sykes, Gosport; Dr. John Ward Cousins, Southsea; Mr. Wilfred Balgarnie, Winchfield; and Mr. Ernest Frederick Eliot, Southampton.

Circuit No. 52.—Mr. Frederick King Green, Bath.

Circuit No. 57.—Mr. Joseph Harper, Barnstaple; and Dr. George Locaine Kerr Pringle, Bridgwater.

Circuit No. 59.—Dr. Peter Gardiner, Camborne; Dr. Arthur Edward Pernegwan, Redruth; Dr. Hugh Cullifordt Sharp, Truro; and Mr. Joseph William Gill, Liskeard.

THE ARMY MEDICAL SCHOOL.

THE seventy-sixth session of the Army Medical School, Netley, was brought to a close on July 29th, when the prizes were presented to the successful officers by Lord Lister, in the presence of a large company which included Surgeon-General Jameson, C.B., Director-General of the Army Medical Department; Sir Joseph Fayrer, Bart., K.C.S.I.; Deputy-Surgeon-General Cayley; Surgeon-General M. Webb; the officers of the Army Medical School, and the military and nursing staff of the Royal Victoria Hospital.

The following lists give the positions of the young officers of the Royal Army Medical Corps and Indian Medical Service when leaving Netley, with the combined marks of the Netley and London examinations, the final positions on the lists being determined by the results of both examinations, while the prizes are awarded for marks gained in the special subjects taught at the school.

ROYAL ARMY MEDICAL CORPS.

	Combined marks.		Combined marks.
W. H. S. Nickerson ...	5048	J. S. Gallie	4254
G. S. Nickerson	4988	F. J. C. Heffernan	4251
G. B. Crisp	4519	A. E. Thorp	4060
R. S. H. Fuhr	4503	C. W. Mainprise	4043
W. Jagger	4488	H. Herrick	3947
A. B. MacCarthy	4467	R. J. Dobbin	3894
G. J. S. Archer	4429	J. Cowan	3889
R. Selby	4413	A. R. O'Flahertie	3853
S. O. Hall	4405	H. B. G. Walton	3676
A. B. Weld	4292	E. P. Hewitt	3174

INDIAN MEDICAL SERVICE.

	Combined marks.		Combined marks.
*T. Hunter	6322	R. F. G. Tucker	5808
†W. R. Battye	6103	G. E. Stewart	5184
‡H. B. Meakin	5948	F. S. C. Thompson... ...	5175
§G. Hutcheson	5603	T. S. Novis	5140
‖W. G. Liston	5585	J. W. Watson	5096
H. Boulton	5505	H. J. R. Twigg	4827
R. W. Anthony	5471	C. W. McG. Orpen... ...	4752

* Gained the Herbert Prize of £20, the Montefiore Second Prize in Surgery, the Martin Memorial Medal, and the de Chaumont Prize in Hygiene.
† Gained the Parkes' Memorial Medal.
‡ Gained the Montefiore Medal and Prize of 20 guineas.
§ Gained the Maclean Prize for Clinical and Ward Work.
‖ Gained the Pathology Prize presented by Sir Joseph Fayrer, Bart., K.C.S.I.

A report of the results of the examination was read by Lieutenant-Colonel J. L. NOTTER, Professor of Hygiene, who invited his lordship to distribute the prizes. After saying a few words to each successful officer Lord LISTER addressed the company and the young officers leaving the school. He said a remark had often been made on occasions like the present, and it was not stale; that was that those who had failed were also to be congratulated not because of their failure, because in many cases that had probably been an accident; but because although some persons had obtained a few more marks and had gained the actual nominal prize, the real prize had been gained by all of them who had striven to attain success. They had gained knowledge which would be a life-long possession to them, and he doubted not would prove of the greatest value to them in their after career. He congratulated the prize-winners on their success and all the young officers upon the fact that they were entering Her Majesty's services under better auspices than their predecessors had done. This was due to the wisdom and understanding shown by Lord Lansdowne, the Secretary of State for War, owing to whose liberal policy the slur which had been attached to the medical service of the Army had been completely removed, and he could not doubt that this would conduce to greater amenities in this branch of the service in the future and to greater self-respect. Whatever the general public might consider thinking men were well aware that their profession was a nobler one than that of arms. It was more exalted in its objects and gave greater scope for the exercise of the highest intellectual powers and the greatest virtues. The virtue which induced a man to tend from day to day his fellow man in the earnest endeavour to diminish the miseries which accident and disease occasioned was one in which their noble profession was especially conspicuous. He considered that the heroism of the medical officer who calmly did his duty on the battle-field was of a higher order than that shown by the combatant who did brave acts

inspired by the excitement of battle, and he reminded the young officers that in times of peace, when the combatants were largely engaged in the somewhat tedious duties of drill, they themselves would be ever occupied in observing the variations of disease and in making inquiries whereby they would often have opportunities of advancing medical science. As an example of the quiet bravery shown by a medical officer Lord Lister recalled the work done by Sir Joseph Fayrer at Lucknow when exposed constantly to the greatest peril. Continuing his short address his lordship adjured the young officers to keep in view the nobility of their calling. He congratulated them upon the knowledge they had acquired in the great school they were leaving, upon the bright prospects before them, and above all upon being about to enter on the active practice of a profession the due performance of which brought its own never-failing great reward.

The DIRECTOR-GENERAL, in asking the company to accord Lord Lister a very hearty welcome to Netley, said that his visit was especially interesting to them because of his lordship's great services to the world in general and to the army in connexion with aseptic surgery. He mentioned that during the late frontier war in India no death had been due to a wound becoming septic and that all the nine cases of compound fracture of the thigh did well and that we owed these results to Lord Lister's great discoveries and work. He said that among both officers and men a feeling still lingered that the oftener their wounds were dressed the better it would be for them, and that there were those who gauged the attention shown to them by the frequency of wound dressing, while the fact was that if wounds were treated on the principles which Lord Lister had introduced the less a wound were touched after the first dressing the better—that, in fact, wounds should not be redressed for eight or ten days. He hoped that Lord Lister's visit would do something to spread these truths among the officers and soldiers of the army and remove prejudice from the mind concerning a system of treatment which the whole medical profession regarded as scientific. He asked the audience to extend to Lord Lister a very hearty welcome on his visit to Netley.

Sir JOSEPH FAYRER added a few words of congratulation to the successful officers and said that although his official connexion with the school had long ceased it was a source of pleasure to him to watch its progress and to see the results which the Netley teaching had achieved both in India and in other parts of the world. He hoped that the knowledge which they had gained would suggest further investigations, for there was still a great deal lying open to discovery, and he urged and advised them to do their best so that they might thereby become great benefactors to their profession and to the army. In conclusion he congratulated them upon the new titles which Lord Lansdowne had conferred upon them, remarking that in the army only one set of titles carried any weight and enabled men to carry out their duties properly; these titles had now been granted to them and would, he felt sure, be used by them to carry out their responsible duties as the medical officers of the army effectively. No medical officer wanted to command regiments, but as they had other duties to perform it was necessary that they should have military authority and control.

Surgeon-General NASH, Principal Medical Officer of Netley, said he had now to close the session of the school. He hoped that those leaving Netley would feel that their stay there had been profitable and that they would look back upon the time spent in the school as a pleasant one. He wished them success in the services to which they belonged and in which they that day became officers.

Lord Lister and the company were subsequently entertained at luncheon by the officers of the Royal Army Medical Corps.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the Council of the Metropolitan Hospital Sunday Fund was held on Wednesday, Aug. 3rd, at the Mansion House, to receive the report of the Committee of Distribution and to order payment of awards to hospitals and dispensaries as well as for the transaction of general business. In the absence of the Right Hon. the Lord Mayor, the chair was taken by Sir SYDNEY WATERLOW, Vice-president of the Fund.

The report stated that the Committee of Distribution recommend awards this year to 186 institutions, being an increase of 81 since the first awards were made in 1873 and 2 less than last year. The total amount available for distribution, after allowing for liabilities and the usual current expenses, is £35,000. Of this total £34,304 is now recommended to be paid to 132 hospitals and 54 dispensaries. This year 195 institutions have made applications for grants from the fund. Of this number it was found necessary to invite the attendance of deputations from the governing bodies of 17. In 6 of these cases, including two applications which were withdrawn, the committee were not able to make any recommendation. Deputations from twelve hospitals and from one dispensary conferred with the committee and in nearly every case the committee received explanations modifying the causes of adverse criticism and enabling them to raise the bases of awards as now recommended. Arrangements for restricting the advantages of the out-patient system to the poor have been made at nearly all the large and at some of the smaller hospitals. The practice of making a small charge to out-patients is rather on the increase. The amount available for distribution is less than that distributed last year, but the committee feel that following on a Jubilee year in which strong appeals were made in other directions, the collections this year on Hospital Sunday maintain a fair average, and that the confidence of the public in the Metropolitan Hospital Sunday Fund is well sustained.

Previously to the consideration of the report the CHAIRMAN announced that Mr. Ludwig Mond had for the eleventh time given his annual subscription of £100.

In moving the adoption of the annual report for the twenty sixth time Sir SYDNEY H. WATERLOW said that he could congratulate the fund on the amount collected this year, though the sum was smaller than in previous years. Up to date £38,741 12*s.* 6*d.* had been received and when the difficulties under which collections were made in 1898 as compared with former years were remembered there was very much reason, he thought, to be thankful to ministers of all denominations who had succeeded in collecting so large a sum. Many of their large contributors had either transferred their subscriptions to the Prince of Wales's Fund or had divided their contributions. Referring to hospital abuse he said he believed that it did not exist to any large extent and the hospitals were doing what they could to check it by appointing officers to inquire into the merits of patients. Sir Sydney Waterlow concluding by moving:—

That the report of the Committee of Distribution for the year 1898 be and is hereby approved, and that the several awards recommended be paid as soon as possible.

Dr. J. G. GLOVER, who seconded the adoption of the report, said he could not suppress his disappointment at the fact that there were £5000 less to distribute than last year.

The Hon. SYDNEY HOLLAND, supporting the motion, pleaded for more support from the public. Hospital managers who devoted their time to the management of hospitals ought to be relieved of the disagreeable work of begging, and he asked the press to make it known that unless the public supported hospitals more energetically than they did at present very evil times were in front of us.

The motion before the meeting was then passed unanimously.

Lord STAMFORD proposed:—

That the cordial thanks of the Council be and are hereby given to Sir Sydney H. Waterlow, Bart. (chairman), and to the other members of the Committee of Distribution for the discretion which they have exercised in interviewing numerous deputations and for the care bestowed in the preparation of the awards they have recommended.

Canon FLEMING seconded the motion, which was adopted.

Sir EDMUND HAY CURRIE proposed:—

That the thanks of the council be and are hereby given to the editors of newspapers who have pleaded the needs of hospitals and advocated the cause of this fund.

In seconding this Sir HENRY BURDETT suggested that greater prominence should be given to the fund by supplying editors of newspapers with literature relating to the fund from time to time and especially just before Hospital Sunday.

Sir SYDNEY WATERLOW said the matter of increased advertising was under consideration.

The resolution was carried.

Sir SYDNEY WATERLOW, in proposing a vote of thanks to

the Lord Mayor, which was unanimously adopted, referred to the advantage the fund received from having its home at the Mansion House.

Dr. GLOVER asked to be allowed to propose a motion to the effect that the Distribution Committee be requested to investigate and consider the cause of the diminution in the amount collected this year, and to report to the Council at the next meeting.

Mr. THOMAS CHRISTY seconded.

Sir H. BURDETT said he was in a position to state that with the exception of four hospitals, where the circumstances were special and the reasons apparent, every hospital in London last year had a more prosperous year than before. Whatever might be the cause of the fall in the amount collected for the Hospital Sunday Fund it was certainly not due to the year of the Queen's Diamond Jubilee or to the Prince of Wales's Hospital Fund.

Sir SYDNEY WATERLOW said that it would be invidious to make any comparison between the two funds.

Dr. GLOVER disclaimed the slightest wish to make any reflections on the Prince of Wales's Fund.

On the matter being put to the vote three members of Council voted for the motion and three against.

The proceedings then terminated.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary Comitia of the Fellows of the Royal College of Physicians of London was held on July 28th, the President, Sir SAMUEL WILKS, Bart., being in the chair.

It was announced that the Gulstonian Lectures for 1899 would be delivered by Dr. G. R. Murray, who had chosen the Pathology of the Thyroid Gland for his subject. The Croonian Lectures will be given by Dr. F. W. Mott.

The PRESIDENT stated that the Bradshawe Lecture would be given by Dr. Ord on Myxœdema and Allied Conditions.

Dr. W. B. Ransom was admitted to the Fellowship.

Edward Hanly, M.D. R.U.I., William Darley Hartley, M.D.Durh., and Edward Arthur Saunders, M.A., M.B.Oxon., were admitted Members of the College.

Licences were granted to 135 gentlemen who had passed the recent examination.

Dr. NORMAN MOORE, on behalf of a committee of the Fellows, presented to the College a portrait of Dr. W. Munk, the Harveian librarian, which had been painted by the Hon. John Collier. Dr. Moore recounted the services which Dr. Munk had rendered to the College and in particular dwelt upon his great work of the Roll of the College, which was first published in 1861, and of which a second edition appeared in 1878.—The PRESIDENT briefly acknowledged the gift in the name of the College.

A letter was read from the Charity Commission relative to certain proposals for the future care and maintenance of the Physic Garden at Chelsea, which had been, since its formation by Sir Hans Sloane, in the keeping of the Apothecaries Society, and it was resolved that the College should intimate its desire to be represented on any board of trustees which may be formed to take over the charge of the garden.

Communications were read from the secretary of the Royal College of Surgeons of England reporting the proceedings of its Council.

A letter was read from the Master of St. Katharine's Hospital inviting the College to nominate a representative to act on the council of the Queen Victoria Jubilee Institute of Nurses and in compliance with this request Sir Dyce Duckworth was nominated.

An application from the chairman of Charing-cross Hospital asking for the assistance of the College to the funds of the hospital was read, but the request could not be acceded to as the College had no funds at its disposal for such a purpose.

An application from Sir W. Turner on behalf of the family of the late Sir George Burrows for permission to have a replica made of the bust in the possession of the College to be presented to the General Medical Council was, after some discussion, granted.

The PRESIDENT having informed the College that the University of London Commission Bill had passed the third reading in the Commons a cordial vote of thanks was, on the motion of Dr. STEPHEN MACKENZIE, seconded by Dr. PYE-SMITH, awarded to Dr. Allchin for his long and arduous labours on behalf of the College in connexion with the University question.

On the motion of Dr. DICKINSON, seconded by Dr. CHURCH, it was unanimously resolved:—

The Royal College of Physicians having learnt that certain change are likely to be made in the laws relating to vaccination think it their duty to reiterate their conviction that vaccination, properly performed and duly repeated, is the only known preventive of small-pox, and this opinion they consider to be fully confirmed by the report of the present Commission.

It was further resolved that copies of this resolution should be communicated to Lord Salisbury, Mr. Arthur Balfour, Mr. Chaplin, and the journals.

The Censors and other officers, members of committees, and examiners for the ensuing year were then elected. (See appended list.)

An elaborate report was received from Dr. SIMS WOODHEAD upon specimens of Uganda arrow-head poison, which had been sent to the College from the Foreign Office. A copy of the report was directed to be sent to the Foreign Office and the thanks of the College were voted to Dr. Woodhead.

Reports from the Committee of Management and the Laboratories Committee were read and also reports from the representative of the College on the General Medical Council and from Dr. C. T. Williams, the representative of the College on the Council of Mason College, Birmingham, the latter detailing the proceedings of the meeting lately held to promote the establishment of a midland university.

Reports from the Finance, Museum, and Library Committees and from the examiners for the Licence were also presented.

The following is the list of officers and examiners who were appointed at the meeting:—Censors: Dr. Walter Butler Cheadle, Dr. William Miller Ord, Dr. Philip John Hensley, and Sir R. Douglas Powell, Bart., M.D. Lond. Treasurer: Sir Dyce Duckworth, M.D. Edin. Emeritus Registrar: Sir Henry Pitman, M.D. Cantab. Registrar: Dr. Edward Liveing. Harveian librarian: Dr. William Munk. Elected members of the Library Committee: Dr. Samuel Jones Gee, Dr. Philip Henry Pye-Smith, Dr. John Cavafy, and Dr. George Vivian Poore. Curators of the Museum: Dr. William Howship Dickinson, Dr. Henry Charlton Bastian, Dr. William Cayley, and Dr. Norman Moore. Finance Committee: Dr. Alfred Baynard Duffin, Dr. George Vivian Poore, and Dr. John Mitchell Bruce. *Examiners:* Chemistry and Chemical Physics: Dr. William Ramsay, F.R.S., Mr. Percy Faraday Frankland, Ph D., F.R.S., Mr. John Millar Thomson, F.C.S., Mr. Frederick Daniel Chattaway, Ph.D., and Mr. Henry Wilson Hake, Ph.D. Materia Medica and Pharmacy: Dr. Francis Warner, Dr. William Carter, Dr. Nestor Isidor Charles Tirard, Dr. Hector William Gavin Mackenzie, and Dr. James Calvert. Physiology: Dr. William Dobinson Halliburton, Dr. John Wychenford Washbourn, and Dr. Marcus Seymour Pembrey. Anatomy: Mr. George Robertson Turner and Mr. George Dancer Thane. Medical Anatomy and Principles and Practice of Medicine: Dr. William Cayley, Dr. Joseph Frank Payne, Dr. Thomas Henry Green, Dr. Thomas Lauder Brunton, Dr. Arthur Ernest Sansom, Dr. Horatio Bryan Donkin, Dr. Thomas Barlow, Dr. David Bridge Lees, Dr. Julius Dreschfeld, and Dr. William Hale White. Midwifery and Diseases peculiar to Women: Dr. John Baptiste Potter, Dr. Charles James Cullingworth, Dr. John Phillips, Dr. C. Montagu Handfield-Jones, and Dr. Robert Boxall. Surgical Anatomy and Principles and Practice of Surgery: Mr. John Langton and Mr. John Neville Colley Davies-Colley. Public Health: Part I., Lieutenant-Colonel James Lane Notter, M.D., R.A.M.C.; and Part II., Dr. William Henry Corfield.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Aug. 2nd the President, Sir WILLIAM MAC CORMAC, Bart., being in the chair.

The SECRETARY laid before the Council the balance-sheet and the certificates of the auditors, Messrs. Cooper Brothers and Co., certifying to the accuracy of the accounts for the past year. The balance-sheet and statement of receipts and expenditure were approved and adopted.

The Council considered the desirability of addressing a

protest to the Government in reference to the proposed alteration of the Vaccination Acts and it was decided to send the following resolution to the Government:

That in view of the proposed alteration in the laws relating to vaccination now contemplated in the Bill before Parliament the Council do reaffirm the following resolution adopted by them on May 11th, 1893, and presented to the Royal Commission on Vaccination, as expressive of their opinion on the value of vaccination—namely:—

We, the Council of the Royal College of Surgeons of England, desire to put on record at the present time our opinion of the value of vaccination as a protection against small-pox.

We consider the evidence in favour of its life-saving power to be overwhelming and we believe, from evidence equally strong, that the dangers incidental to the operation, when properly performed, are infinitesimal.

Experience has satisfied us that even when vaccination fails to afford complete exemption from small-pox it so modifies the severity of the disease as not only to greatly reduce its mortality but to lessen the frequency of blindness, disfigurement, and other grave injuries.

We should therefore regard as a national calamity any alteration in the law which now makes vaccination compulsory.

We are, moreover, firmly convinced that revaccination is an additional safeguard and should be universally practised.

We would add that we believe that the instructions of the Local Government Board for public vaccinators are well designed to secure the greatest efficiency in vaccination and to avoid the liability to risks from the operation.

A letter was read from Mrs. Lee thanking the Council for their condolence on the death of her husband, Mr. Henry Lee.

A letter was read from the Registrar of the General Medical Council forwarding copies of the recommendations of that Council respecting dental education and examination. The subject was referred to the Board of Examiners in Dental Surgery to consider and report.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6910 births and 3709 deaths were registered during the week ending July 30th. The annual rate of mortality in these towns, which had been 14·7 and 15·6 per 1000 in the two preceding weeks, rose further last week to 17·2. In London the rate was 16·8 per 1000, while it averaged 17·5 in the thirty-two provincial towns. The lowest rates in these towns were 9·4 in Cardiff, 11·0 in Blackburn, 11·2 in Preston, and 11·9 in Brighton and in Burnley; the highest rates were 23·0 in Liverpool, 23·7 in Halifax, 25·3 in Birkenhead, and 27·3 in Salford. The 3709 deaths in these towns included 572 which were referred to the principal zymotic diseases, against 378 and 487 in the two preceding weeks; of these, 356 resulted from diarrhœa, 62 from measles, 61 from whooping-cough, 47 from diphtheria, 29 from "fever" (principally enteric), and 17 from scarlet fever. No death from any of these diseases occurred last week in Bolton; in the other towns they caused the lowest death-rates in Bradford, Hull, and Oldham, and the highest rates in Portsmouth, Sheffield, Wolverhampton, and Birkenhead. The greatest mortality from measles occurred in Portsmouth, Plymouth, and Sunderland; from scarlet fever in Wolverhampton; from whooping-cough in Wolverhampton; from "fever" in Huddersfield; and from diarrhœa in Portsmouth, Leicester, Birkenhead, Salford and Sheffield. The 47 deaths from diphtheria included 21 in London, 5 in Liverpool, 4 in Leeds, and 3 in West Ham. No fatal case of small-pox was registered last week in any of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2321, against 2250, 2314, and 2355 on the three preceding Saturdays; 232 new cases were admitted during the week, against 237, 265, and 276 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 175 and 148 in the two preceding weeks, rose again to 173 last week, but were slightly below the corrected average. The causes of 41, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Birmingham, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·5 and 20·1 per 1000 in the two preceding weeks, declined again to 18·6 during the week ending July 30th, but was 1·4 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 8·5 in Perth and 13·6 in Leith to 19·7 in Edinburgh and 24·0 in Dundee. The 560 deaths in these towns included 57 which were referred to diarrhœa, 25 to measles, 20 to whooping-cough, 6 to scarlet fever, 3 to "fever," 2 to diphtheria, and not one to small-pox. In all, 113 deaths resulted from these principal zymotic diseases, against 93 and 118 in the two preceding weeks. These 113 deaths were equal to an annual rate of 3·7 per 1000, which was 1·0 above the mean rate last week from the same diseases in the thirty-three large English towns. The 57 fatal cases of diarrhœa showed a slight further increase upon those recorded in recent weeks and included 40 in Glasgow and 4 in Dundee. The deaths from measles, which had declined from 41 to 19 in the four preceding weeks, rose again to 25 last week, of which 13 occurred in Dundee, 5 in Glasgow, 3 in Edinburgh, and 3 in Leith. The 20 fatal cases of whooping-cough showed a decline of 9 from the number in the preceding week, and included 14 in Glasgow and 3 in Aberdeen. The deaths from scarlet fever, which had been 9 and 8 in the two preceding weeks, further declined to 6 last week, of which 3 occurred in Glasgow, where the 3 fatal cases of "fever" and the 2 deaths from diphtheria were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 76 and 75 in the two preceding weeks, rose again to 79 last week and exceeded by 13 the number in the corresponding period of last year. The causes of 29, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 18·5 and 22·7 per 1000 in the two preceding weeks, further rose to 23·9 during the week ending July 30th. During the past four weeks the death-rate in the city has averaged 21·4 per 1000, the rate during the same period being 15·2 in London and 19.6 in Edinburgh. The 160 deaths registered in Dublin during the week under notice showed an increase of 12 upon the number in the preceding week, and included 14 which were referred to the principal zymotic diseases, against 3 and 12 in the two preceding weeks; of these, 9 resulted from diarrhœa, 3 from "fever," 1 from scarlet fever, 1 from diphtheria, and not one either from small-pox, measles, or whooping-cough. These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 2·6 in London and 1·4 in Edinburgh. The deaths from diarrhœa, which had been 1 and 4 in the two preceding weeks, further rose to 9 last week. The 3 deaths referred to different forms of "fever" exceeded the number registered in any recent week. The mortality from scarlet fever and from diphtheria corresponded with that recorded in the preceding week. The 160 deaths in Dublin last week included 30 of infants under one year of age, and 39 of persons aged upwards of sixty years; the deaths of infants showed a decline, while those of elderly persons showed a further increase upon the numbers recorded in recent weeks. Four inquest cases and 2 deaths from violence were registered; and 64, or more than a third, of the deaths occurred in public institutions. The causes of 9, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

FLEET-SURGEON THOMAS CANNING HICKEY, M.B. Glasg., has been placed on the retired list at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets.

The following appointments are announced: — Staff Surgeons: Edward C. Ward to the *Penguin;* Hamilton Meikle to the *Severn;* and J. O'B. Williams to the *Vivid.*

ROYAL ARMY MEDICAL CORPS.

Major A. E. Tate takes over medical charge of officers,

women, and children at Colchester. Captain L. Way is placed on the sick list. Lieutenant-Colonel J. C. Dorman has arrived at Dublin.

Surgeon-General John W. Maxham retires on retired pay. Captain Phillip J. R. Nunnerley is placed on temporary half-pay on account of ill-health.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Major Silcock to officiate as Civil Surgeon, Nagpur; Surgeon-Major Price as Civil Surgeon, Bilaspur. Surgeon-Captain Moir, Officiating First Resident Surgeon, Presidency General Hospital, Calcutta, is confirmed in that appointment. Surgeon-Captain O'Kinealy is appointed to be Second Resident Surgeon, Presidency General Hospital, Calcutta. Surgeon-Captain Deare, Civil Surgeon of Nadia, is appointed to act as Civil Surgeon, Midnapore, during the absence, on deputation, of Surgeon-Major Walsh. Surgeon-Major Crawford, Civil Surgeon, Monghyr, is appointed to act as Civil Surgeon of the 24 Parganas during the absence of Surgeon-Major Leahy and to act as Medical Inspector of Emigrants (Colonial Immigration) in addition to his own duties. Surgeon-Major Rogers is appointed to act as Civil Surgeon, Monghyr. Surgeon-Lieutenant-Colonel Comins, Inspector-General of Jails for Bengal, is allowed furlough for eighteen months. The services of Surgeon-Captain Manifold (Bengal) and Surgeon-Captain Young (Bengal) are replaced at the disposal of the Government of the North-West Provinces and Oudh.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain James Turton to be Surgeon-Major.

VOLUNTEER CORPS.

Artillery: 1st North Riding of Yorkshire (Western Division, Royal Artillery): Patrick Bernard Gretton Considine, M.B. Dubl., to be Surgeon-Lieutenant. 4th West Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant J. B. Milne, M.B. Aberd., resigns his commission. *Rifle:* 2nd Volunteer Battalion the East Surrey Regiment: Surgeon-Lieutenant T. Brushfield, M.B. Cantab., to be Surgeon-Captain. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: Surgeon-Major G. Griffith to be Surgeon-Lieutenant-Colonel.

THE SPANISH-AMERICAN WAR.

The political situation and Spain's acceptance of the proffered terms of peace have for the time altogether usurped the place of war news. The Americans will nevertheless be confronted with great difficulties arising from the position which they will have to occupy in regard to the native and insurgent population and the future government and administration of the places to be evacuated by the Spanish troops. But it will necessarily take time to settle these matters, especially as regards Cuba, the Philippines and Manila. The force now advancing under General Miles at Porto Rico appears to be generally welcomed by the inhabitants and to be meeting with little or no opposition from the Spaniards. The Americans are to be sincerely congratulated on the capitulation and capture of Santiago, for General Shafter's expeditionary force, from sickness and other causes, was in serious straits. Fortunately, there has been no severe yellow fever epidemic at Santiago. The total casualties in action among the Americans up to July 15th were: killed—21 officers, 225 men; wounded—98 officers, 1486 men; missing—84 men; or a total of 1914 casualties. The sanitary report from the General shows that on July 28th last the number of sick had increased to 4279, including 3406 cases of fever. The new fever cases numbered 696, and the fever patients who had been restored to duty on the 28th, 590. Brigadier-General Steinberg, Chief of the Medical Department, fully appreciates the seriousness of the situation and is forwarding medical men and nurses to Santiago faster than ever. The sick and wounded prisoners in hospital number 2181. There are also many cases of typhoid fever among the troops stationed at different points in Florida, especially at Miami, where there are now 7500 volunteers under canvas, among whom "malarial typhoid" is very prevalent. Owing to the inadequate facilities for proper sanitation there Mr. Alger, Secretary of War, has ordered the camp to be transferred to Jacksonville. The sick transport service between Cuba and the United States does not seem to have been working satisfactorily. Some of the steamers carrying the sick and wounded have not been large enough or properly equipped and there has consequently been a good deal of overcrowding and great discomfort among the invalids. Much indignation, according to a correspondent writing in the *Daily Mail* on Aug. 2nd, was aroused in regard to the manner in which they were sent back to the States from Cuba in the steamer *Concho*, for example. This vessel left Santiago on July 23rd with 175 officers and men suffering from wounds and fever as well as a large number of other passengers. Five men died during the voyage, the sick on board became worse, and the healthy became ill owing to the bad sanitary arrangements and absence of any proper care and attention. The United States' Government has ordered a strict inquiry into all the circumstances of the alleged grave mismanagement. The complications in and around Manila are becoming serious, to say the least of it. The insurgent populations cannot be trusted to govern either in Cuba or in the Philippines, and the political situation may soon prove as embarrassing to the conquerors as to the conquered. American troops have already arrived, and are still arriving, to form a land force in aid of Admiral Dewey's fleet for the capture of Manila, about the speedy capitulation or fall of which city no doubt is entertained. The health reports of the men belonging to Admiral Dewey's fleet and of the soldiers composing General Merritt's force are fairly satisfactory. The President of the United States has shown himself to be a strong man and has greatly added to his reputation by his judicious and practical conduct of affairs during the war as well as by his moderation in dictating the terms of peace to Spain.

THE SOUDAN CAMPAIGN.

The health of the troops in the Soudan is good; there is now but little enteric fever and almost no dysentery amongst them. The men composing the force who have been occupying the Soudan have become well seasoned to the climate. They have throughout been well cared for in all respects—as regards food, water-supply, and housing—and their physical training has been maintained by route-marching and camp exercises of all kinds. The sick-rate has long been, and still is, under 6 per cent. Surgeon-General Taylor has reached the Sirdar's headquarters at Atbara camp. The railway is now completed to the headquarters' camp and has brought up large quantities of food and stores for the coming expedition to Khartoum. It is probable that no field army has ever been better supplied or looked after than the force about to advance against the Khalifa. It is expected that the capture of a fortified place like Omdurman, defended by a large force of fighting men, will be the toughest thing yet undertaken in our Soudanese warfare. We shall soon see. Meanwhile, Sir H. Kitchener has the merit of keeping his strategical intentions and military plans severely to himself. It will be an interesting and proud position to take part in an expedition which will avenge the death of Gordon—the most chivalric figure of this age—and liberate the native population from a grievous and cruel oppression.

Correspondence.

"Audi alteram partem."

THE VACCINATION BILL.

To the Editors of THE LANCET.

SIRS,—The Bill as amended by the Standing Committee on Law provides (section 1, subsection 2) that "the public vaccinator of the district shall, if the parent or other person having the custody of a child so requires, visit the home of the child for the purpose of vaccinating the child." As an old inspector of public vaccination (under the Local Government Board) in Lancashire, Yorkshire (East and West Riding), Lincolnshire, Nottinghamshire, Derbyshire and Cheshire, I can have no doubt that if the above provision becomes law the attendance of parents with their children at a public vaccination station will soon absolutely cease and that consequently the Local Government Board inspector will be unable to certify by actual inspection whether or not the Board's instructions to public vaccinators are duly observed. The public will thereby lose the protection which the law now gives them. The use of a rusty or foul lancet (with all its possible risks) is not an imaginary evil.

I am, Sirs, yours faithfully,

CHAS. I. BEARD.

Keith-grove, Shepherd's Bush, W., July 28th, 1898.

To the Editors of THE LANCET.

SIRS,—That a subject which involves the health of the community should be made a mere party question in the

House of Commons clearly points to the necessity which exists for the official representation of the medical profession in that House. At present we are dependent on what may be termed accidental representation, a condition of things which, as we see, allows of tricks being played with public health.

I am, Sirs, yours faithfully,

Harley-street, W., July 27th, 1898. ARTHUR H. CHEATLE.

"THE ALLEGED DEARTH OF QUALIFIED ASSISTANTS."

To the Editors of THE LANCET.

SIRS,—There is a statement in the letter in THE LANCET of July 30th signed "M.D. Edin." to which I should like to call attention and which is as follows: "That the acceptance of contemptible fees for respensible professional service is degrading to the individual and derogatory to the dignity of a learned profession is abundantly evident." I should like, therefore, to be allowed to ask your correspondent who takes such high ground, What, in the event of his doctrine being universally practised, is to become of the vast majority of the class who require medical aid but who at the same time are ineligible as recipients of Poor-law relief? Surely it must be evident to your correspondent that only a minority (and probably a very small minority too) of those resident within the British Isles are in a position to remunerate a medical man in any adequate sense of the term remuneration. It is true that clubs, provident dispensaries, hospitals, and the Poor-law exist, and these may be regarded by some as a more or less refined method of covering up or disguising low fees; but as concerns the smallness of the fee I venture to state they are equally if not more "contemptible" in point of pecuniary equation than those derived from a so-called "sixpenny dispensary," and I venture to state further that even if the Government were to undertake the remuneration of our profession, as hinted at by another correspondent, the fees would continue "contemptible," and we have a specimen of this under the present Poor-law system.

I am, Sirs, yours faithfully,

Peckham, S.E., Aug. 2nd, 1898. CLEMENT H. SERS.

THE INDEXES TO THE REPORT OF THE ROYAL COMMISSION ON VACCINATION.

To the Editors of THE LANCET.

SIRS,—Permit me, in thanking Dr. Bond for his complimentary notice of my Index to the Report of the Royal Commission on Vaccination and of that to the report of the dissentient minority, to point out an error into which he has inadvertently fallen. The indexes are not to be had here, as I have made over the copyright to the league, but from the secretary, Mrs. Young, 50, Parliament-street, S.W. As a second edition may be called for I should be much indebted for any errata that may be discovered and notified to me.

I am, Sirs, yours faithfully,

Edgbaston, Aug. 1st, 1898. A. PHELPS.

HOSPITAL REFORM AND SANITATION.

To the Editors of THE LANCET.

SIRS,—Having been requested to read a paper on Hospital Reform at the forthcoming congress in Dublin I shall feel grateful if some of your Irish correspondents will communicate with me on the subject. At first sight there does not appear to be much connexion between hospital reform and sanitation, but on reflection it will be acknowledged that there are several points which are well worthy of discussion at a sanitary congress. For instance, the reception of infectious diseases in a general hospital and the overcrowding of persons suffering from all sorts of diseases in the limited space generally allowed to out-patients are well worthy of the attention of sanitarians.

I am, Sirs, yours faithfully,

T. GARRETT HORDER,

Cardiff, Aug. 2nd, 1898. Hon. Sec. Hospital Reform Association.

PIPERIDINE: A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In the general conclusions at the end of our paper on Piperidine as a Uric Acid Solvent contained in THE LANCET of July 23rd the dose of the tartrate is given as 15 gr. The dose in which we have employed the drug is 10 gr., as stated earlier in the paper.

We are, Sirs, yours faithfully,

F. W. TUNNICLIFFE.
OTTO ROSENHEIM.

Devonshire-street, Portland-place, W., July 27th, 1898.

THE CASE OF DR. REICHARDT.

To the Editors of THE LANCET.

SIRS,—It appears to me justifiable to ask for the support of the members of the medical profession when one of their fellows is attacked by a powerful body in regard to what he believes to be the proper conduct of his profession. I therefore write under the following circumstances.

Dr. Reichardt, of Ewell, who has had considerable experience in the treatment of nervous and insane patients, received into his house, at the suggestion of a leading consulting general physician, a young lady who was suffering from temporary mental depression, he having no other certifiable patient in his house at the time. After the lady had been with him a short time he called in a mental specialist to advise him as to whether the patient, who was still somewhat depressed, was in such a state as to require certification. The consultant decided that, in his opinion, she was not certifiable, and the patient began to improve in all ways till the reception of bad news seemed to upset her again, when she escaped from the house and drowned herself. Dr. Reichardt is now called upon to defend himself at the Old Bailey for alleged offences against the Lunacy Act, and it seems to me to be of the utmost importance to the profession generally that he should be placed in a position to justify the treatment in private of patients who are suffering from temporary mental disorders. I therefore beg to appeal to my medical brethren for pecuniary support.

I am, Sirs, yours faithfully,

GEO. H. SAVAGE.

3, Henrietta-street, Cavendish-square, W., Aug. 3rd, 1898.

THE EFFECT OF THE SOCIAL PURITY AGITATION AT GIBRALTAR.

(FROM A SPECIAL CORRESPONDENT.)

THE terrible prevalence of venereal disease at Gibraltar, accentuated by the interference of the Home Government, is a grievance which affects not only the colony itself but the Spanish towns of Linea, Algeciras, and other surrounding districts. If we read reports on the health of Gibraltar, whether written by the medical officers of health of the colony or by independent critics, a great number of complaints will be found concerning the difficulty of preventing the importation of disease from Spain. At one time it is typhoid fever, at another cholera or small-pox contracted in Spain and spread in Gibraltar; or else disease is imported by means of milk which is brought over from Spain and the distribution of which should be better controlled. Sometimes it may be due to the linen which is sent out from Gibraltar to be washed in Spain and is there dried or washed in dangerous proximity with cases of infectious disease. But if in Spain the sanitation and the drainage of the houses are bad and there are no efficacious means of disinfection, notification, and isolation for cases of infectious fever, very strict precautions are taken to prevent the spread of venereal disease. Undoubtedly some cases of zymotic disease are imported from Spain to Gibraltar, but these are few and far between as compared with the numerous cases of venereal disease spread in Spain from Gibraltar. It is surprising how patiently the Spaniards have endured this grievance, and it is a wonder that the Spanish authorities have not made strong protests against the dangerous neglect

of the British authorities. In justice to the inhabitants of Gibraltar it must be said that the enormous majority bitterly regret that the interference of the home authorities has brought this shame upon them. They never desired the abrogation of the Contagious Diseases Act, and when this law was rescinded they very ingeniously contrived to continue its application for many years. There was certainly no longer any power to compel women to undergo medical examination, but as the women in question were all Spanish subjects, or at least foreigners, they were not allowed to reside at Gibraltar unless they obtained a special permission to do so. This permission was refused to the women who could not produce weekly a medical certificate of good health. As these women were all accustomed to such medical examination in their own country this regulation constituted no hardship and was willingly accepted.

In 1890 the Social Purity party in England got wind of this arrangement and in that and the following year sent delegates out to Gibraltar. As usual they obtained the support of some members of the clergy and other unpractical sentimentalists. The result is that the police have been ordered to employ no force—in fact, that nothing is to be done. Formerly they did not compel the women to be examined, but they insisted that they should reside in certain houses and produce a certificate every week. The women therefore paid a local practitioner to examine them and thus procured the certificates. Of course, a woman who was a British subject could have refused to show a certificate and the police would have been powerless; but fortunately all, or nearly all, of these women were foreigners and could therefore be sent away if they failed to comply. Indeed, the only measure which can now be taken is to send the women away. The practical result of this state of things is certainly not edifying. A great number of these women have paid Gibraltar British subjects to marry them. They have thus acquired the British nationality. They can therefore defy the police, no one can deny their right to reside in Gibraltar, and one of the first results of the Social Purity agitation has been to induce a number of men to marry prostitutes and to live on the prostitution of their wives. Then, again, as the legitimate wives of British subjects these women can live in any part of the town, whereas formerly they were relegated to certain districts high up on the ramparts where their presence remained unperceived by the more virtuous section of the population.

The Social Purity party have said a great deal about the dignity of women and have represented them as being enslaved and degraded by enforced medical examinations. It would seem, however, as if the women concerned do not appreciate very keenly these arguments. They recognise, on the contrary, that the abolition of the Contagious Diseases Act has proved detrimental to their interests. Disease became so prevalent that the women not only suffered physically but also financially. The men began to shun them and went over to the Linea and other Spanish places. So it has come to pass that the women at Gibraltar for whose sake the law and regulations enforcing medical examinations have been abolished are now seeking by voluntary means to re-establish the very practice which was denounced as so abominable. I was assured by the police authorities that at least half of the public women at Gibraltar at their own expense and every week obtain a medical certificate. Soldiers and sailors and the civil population also are better educated than they used to be and are consequently much more careful. They therefore prefer women who can produce medical certificates and often ask for these certificates. If these certificates, as is urged, encourage vice—a very doubtful and problematical statement—then the abolition of the law has not secured the abolition of the certificates. On the other hand, it must be acknowledged that the usefulness of these certificates is not as yet very great. For instance, when, as is often the case, a woman's name is not known, she can borrow and show the certificate of some other woman. Again, if on examination it is found that she is ill there is no force to compel her to undergo treatment. She can no longer produce other than a borrowed certificate, but there is nothing to prevent her spreading the disease she has contracted. Thus, in spite of the voluntary certificate system, there is still much disease prevalent. Nevertheless, and though the results so far are not very effective, it is most significant to find that the women themselves voluntarily seek to re-establish those regulations which they were supposed bitterly to resent.

According to the police, there are now in Gibraltar about a hundred of what are qualified as "professional" prostitutes and about sixty "clandestine" prostitutes. The civil population of Gibraltar for the year 1897 was estimated at 19,100. The garrison is under 5000. The average strength of the troops amounted to 4630 in 1896. But if the number of women is not larger it is because most of the men go over to the Linea, where they find a cleaner and better class of women. Under these circumstances the Spaniards would be quite justified in urging that the same precautions should be taken at Gibraltar as are taken at the Linea; and, in any case, while this state of things continues it is most inconsistent for us to complain that the same precautions are not taken on the Spanish side to prevent the spread of infectious fevers, &c., as are actually enforced in Gibraltar. The consequences of syphilis are quite as serious as those of scarlet fever or small-pox. We render notification, isolation, disinfection, and vaccination obligatory, thus totally disregarding the liberty of subjects against whose respectability nothing can be said. Yet we will not interfere with the liberty of women who are certainly not qualified as respectable and who are notoriously likely to spread a very terrible disease. This gross inconsistency should silence the complaints which the inhabitants of Gibraltar are in the habit of making as to the insanitary conditions which prevail on the Spanish side and which add to the difficulties of preserving the health of Gibraltar. It is notorious that there is a great increase of venereal disease at Algeciras during the summer months. Nor is it necessary to go far to find an explanation of this phenomenon. The climate of Algeciras is much pleasanter than that of Gibraltar during the heat of summer. Then there is a brilliant fête at Algeciras and bull-fighting. Consequently a great number of people go over from Gibraltar for the summer season, as it is barely half-an-hour's journey by the steamer which crosses the bay. It is these visitors from Gibraltar who spread venereal disease at Algeciras. The medical men who examine the women at Algeciras are unanimous in bearing witness to this fact. Further, they declare that nearly all the women who come from the Linea are found to be diseased; in fact, the women from the Linea have acquired a bad name and are studiously avoided by the Spaniards because of their constant relations with the English. The medical men at Algeciras explained to me that they were very careful to at once examine any woman who came from the Linea and they generally found such women diseased. The Linea was too near to Gibraltar to be anything else but an exceptionally dangerous residence for them.

The difficulty of obtaining permission to reside in Gibraltar has also a tendency to encourage immorality. If a Spaniard lives with a Gibraltar woman and has children the woman and her children can remain because they are British subjects. But if the Spaniard marries the woman then she and her children, legally speaking, become Spaniards and unless they succeed in obtaining a special licence to remain they are all sent away. If the man dies the widow is only allowed to reside three months in the colony; or, perhaps, this licence may be extended to six months. Under these circumstances, as there is money to be made in Gibraltar and in all probability none to be made in Spain, a Gibraltar woman who falls in love with a Spaniard had better, so far as her material interests are concerned, avoid contracting a legal marriage.

Of course there are no statistics showing to what extent venereal disease prevails at Gibraltar as well as those which relate to the garrison. The last published relate to the year 1896 and state that the average strength of the troops was 4630. The average number constantly sick was 246·74. The number of admissions to hospital was equal to 699·5 per 1000, the deaths to 4·10 per 1000, and the constantly sick to 53·29 per 1000. This is a reduction on the figures of the previous year. Taking out of this general total that which relates to venereal diseases it will be found that there were 27 admissions to hospital for primary syphilis, which is equal to 5·8 per 1000, a considerable reduction on the experience of the previous year, when the proportion was 8 per 1000. Then there were 302 admissions for simple venereal ulcer, and this is equal to 71·1 per 1000. For secondary syphilis there were 97 admissions, or 21·0 per 1000, as compared with 27·2 per 1000, the average for the last decennial period. For gonorrhœa there were 655 admissions, or 141·5 per 1000, which is a trifle less than the previous year, but more by 18·6 per 1000 than the last decennial average Taking all forms of venereal disease together the proportion stands

at 233·6 cases per 1000, as compared to 316·2 per 1000 for 1895 and 269·2 for the decennial average. The ratio of constant inefficiency was equal to 25·69 per 1000, which is lower by 5·96 than the previous year but 4·12 per 1000 higher than the average. Thus the inefficiency of the force in consequence of illness in 1896 was equal to 52·29 per 1000, and more than half of this loss—namely, 25·69 per 1000—was due to venereal disease. What this means with regard to the fighting capacities of the force is self-evident. It is not necessary to enlarge on this phase of the subject. It is only necessary to compare the above figures with similar statistics relating to any continental army to understand the manifest inferiority in this respect of the British as compared with any other army. If by thus weakening our forces any great moral good could be achieved then it might be worth while to endure this sacrifice. But experience acquired at Gibraltar shows that by abolishing the medical examination of women worse phases of immorality have resulted. We have encouraged men to marry prostitutes and to trade on their prostitution. The "social evil" has not been abolished, it has been accentuated.

THE SPANISH-AMERICAN WAR.

(FROM SPECIAL CORRESPONDENTS.)

On board Hospital Ship *Relief*, near Santiago, July 7th, 1898.

OUR voyage here was without incident and was broken only by a short stop at Fortress Monroe, where we met the Surgeon-General of the Army and took on board a number of surgeons for whom General Shafter had telegraphed on finding the casualties far in excess of what he had at first supposed. Among those who joined the *Relief* was Dr. Nicholas Senn, of Chicago, who goes to Cuba as chief of the operating staff with the army in the field. He will give naturally special attention to the perfecting of the newly-established system of division hospitals.

Dr. Senn expressed himself as delighted with the general arrangements of the ship, though he has made some suggestions for its improvement in certain details. The cots, for instance, are fitted with wooden fenders to prevent patients from being thrown out; these, Dr. Senn said, should without doubt have been of canvas.

The hurricane deck is to be used for typhoid or other infectious fever which may develop on board. Dr. Senn called attention to the fact that in all properly appointed hospitals the fever wards were on the lower floors, and not on the upper floor as in this ship. He is of the opinion, however, that under no circumstances should cases of infectious disease be allowed to remain on board ship; they should at once be removed to a shore hospital. We were shocked on arriving at Fortress Monroe to hear that there had been over a thousand killed and wounded in the first fight at Santiago. The painful fact was forced upon us that if the casualties continued in this proportion we should be woefully in need of more hospital space, which only goes to emphasise the necessity not of one, but of many such ships as this. The truth is that neither the powers that be nor the people appreciated for a moment what they had undertaken in this war. Then, too, the extraordinary freedom from casualties which characterised the operations of our fleets in the Atlantic and the Pacific led to the belief that the Spanish could not shoot and would not fight; in short, that we should have an easy time of it.

Santiago itself is a hotbed of yellow fever, and a high authority, whom I cannot quote by name, said that if we invest the town we are sure to have an outbreak of this dread disease, with a loss of 25 per cent. I asked Dr. Senn if the climatic conditions around Santiago were likely to lead to bad results after amputations and other operations. He replied that, other things being equal, heat and humidity did not militate against rapid healing; so that it will doubtless be a source of gratification to those who have loved ones in the field to know that the after-results of operations in this climate are, as a rule, so satisfactory.

We arrived at Siboney this afternoon to find that about 2000 men had been killed and wounded. The medical corps suffered severely. The Spaniards did not respect the Red Cross, having fired repeatedly upon the ambulances and at wounded men on stretchers. This is a severe charge, which I make unreservedly upon the authority of a dozen men, surgeons and officers who were at the front. Colonel Dickinson was shot twice, once while being carried to the tent, and a second time, and this time fatally, just as he was entering the tent. Two surgeons and a hospital steward were killed in the same way. When Dr. Torney and Lieutenant Gobbs went ashore they wore the Red Cross brassard. The first remark which the wounded men and the surgeons made to them was to advise its removal, for far from being a protection it but served as a mark for the Spanish. This conduct on the part of the Spanish was in the face of the fact that they had Red Cross flags flying all over Santiago.

The condition of the wounded on shore here is beyond measure wretched and excites the lively indignation of everyone. I content myself with mentioning this fact—it is not the fault of the medical corps. The quartermaster and commissary departments are to blame. We were distressed not to be able to take the sick and wounded on board this afternoon, but owing to some official red tape Dr. Torney was not given an anchorage—the shore, of course, had been prepared for the ship. Why this was not done when the wounded so sorely needed the comforts and attention which we can give them is a mystery officialdom will have to explain.

We begin to take on the wounded to-morrow morning at 4 A.M. I close this to catch the transport about to sail. There is no sickness on board the *Relief*.

Another correspondent writes:—

In Camp on the Hills, near Santiago, Cuba, July 6th, 1898.

I am glad to be able to write to you after the hot engagement we had recently with the Spanish. As regards the wounds inflicted, the Spanish are using two kinds of rifles, the one loaded with the Mauser steel-jacketed bullet similar to our bullet, but of slightly smaller calibre and more pointed, calibre 27.+; and the other with the Remington brass-jacketed bullet, calibre 44. The firing has been mainly at medium range, about 700 or 800 yards. The main thing noticeable was the slight amount of shock following injury by the Mauser bullet and the great amount of shock with the Remington. As my work was altogether that of first aid, I know nothing of the damage done internally, but in the cases handled by me which were many, the Mauser balls appeared to make nothing more than a clean punctured wound, that of exit being hardly if any greater than that of entrance. The amount of bleeding was practically *nil*, even in perforating wounds of the lung. The percentage of killed was small as compared with the number of wounded and in consequence of the small degree of shock the majority of the latter are doing well and some are already back on the firing line. There was very little shattering of bone; personally, I did not see a single case. Some men with brain-perforations lived forty-eight hours after reaching the division hospital. The penetrating abdominal wounds were necessarily serious and the shock severe. It will be interesting to follow their history when report can be had of their subsequent behaviour after reaching the hospital. A number of the wounded were hit several times before becoming disabled sufficiently to prevent fighting. The results from the larger bullets were more like those from our bullets during the late war: large wounds of exit, great shock, and probably considerable damage along the track of the ball. I saw several of these bullets with torn, jagged jackets, which made severe injuries. It is said that protest has been made against the use of the brass-jacketed bullet, both by our people and the foreign attachés here with us, as a violation of the article on projectiles in the Geneva Convention, for the reason that the brass jacket is an irritant to the tissues and the soft lead core in it is liable to make it spread and inflict injuries like those made by express bullets. It is believed that this bullet is used by the guerillas among the Spanish.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The "Weighting" of Textiles.

AT the meeting of the Manchester Chamber of Commerce held on the 27th ult. a matter came under discussion illustrative of the views which some manufacturers hold as to commercial morality and interesting to the medical profession from its bearing on health. Mr. W. Fogg called attention to a note in the *Manchester Guardian* of that morning in regard to the "weighting" of woollen blankets with moisture-attracting

substances such as those employed in low-priced sheets made from cotton waste. He said that they were indebted to Mr. Carse for bringing this pernicious practice, which is believed to be growing, under the public eye. A manufacturer wrote to him as follows: "We have the same evil to contend with in the blanket trade that you have hit on the head in the waste twill sheet trade, and blankets will soon be as dangerous to sleep under as sheets if certain practices in filling are allowed to go unchecked." He says if they do not follow suit they will lose all their trade. We may hope the judgment and good sense of the people will come to the rescue. "Another manufacturer had been candid enough to say that he would not sleep under a pair of his own sheets for £100." Mr. Reuben Spencer said that "the mixtures of zinc and Epsom salts used for weighting purposes were very deleterious in the effects they produced, though it was to be said for them that they were fatal to insect life." The boasted integrity of the British merchant and manufacturer promises before long to become a legend incapable of belief. A resolution was passed unanimously: "That the president be requested to call the attention of the Home Trade Sectional Committee to the practice of 'weighting' textile fabrics used for clothing with moisture-attracting materials, with a view to devising the best method of dealing with the evil." It is discreditable to British trade that such a resolution—which will by no means disturb the minds of those who are wicked enough to endanger the health of all who use their goods—should have to be put on record.

Cotton Districts Convalescent Fund.

The almost forgotten cotton famine is again brought to mind by the meeting of the governors of the Cotton Districts Convalescent Fund, which was held the other day under the chairmanship of Lord Egerton of Tatton, who was supported by many noblemen and gentlemen of Cheshire and Lancashire. The report stated that during the half-year ending June 30th 1278 patients had been sent to the convalescent hospitals at Southport, Buxton, and Cheadle, at a cost of £2085 5*s.* 1*d.*, as against £2395 15*s.* 4*d.* in the corresponding period last year, when 1379 patients were admitted to the institutions through this fund. It stated also that the Convalescent Hospital and the Children's Sanatorium at Southport had been recently visited by several members of the Hospitals Committee, who found the patients comfortably quartered and attended to, while the day-rooms, dormitories, and administrative offices were clean and orderly.

The Stockport Union Workhouse.

The question of workhouse accommodation has exercised the minds of the Stockport Union Guardians for some time and the enlargement of the present workhouse or the building of a new one has been the subject of very animated discussions. That something should be done quickly is evident from the report of Mr. W. B. Bale, the medical officer, which was read at the meeting of the guardians held on July 28th. He stated that the female imbecile wards were so overcrowded that six of the inmates had to sleep in the body of the house, which was a cause of anxiety and danger. The floor of one ward is said to be so rotten as to be dangerous, but the difficulty is to find a place for the 40 women inmates during the necessary repairs. In the meantime, according to the newspaper reports, the guardians spend their time in wrangling over—or discussing in an animated fashion—the building of a new workhouse at Stepping Hill or acquiring property at Shaw Heath to permit of the extension of the present workhouse.

Aug. 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of the Very Rev. Principal Caird, D.D.

IT will be with very genuine regret that graduates of the University of Glasgow will read of the death of Principal Caird. But a few weeks ago the intimation of his resignation was accompanied by what were believed to be well-founded hopes that the most serious features of his illness had subsided and that there remained for him a period of quiet in the evening of his life. Unfortunately, these hopes have proved groundless and during the closing days of last week his strength rapidly declined and he died early on the morning of July 30th. Dr. Caird had been Principal of the University for more than twenty-five years. As a pulpit orator he stood in the very front rank and his annual address to the students—discontinued in recent years in consequence of failing health—used to be one of the features of the session. It is almost impossible to over-estimate the influence which he exerted on the life of the University, and many hundreds of former students will recall his dignified presence, lofty eloquence and sympathetic insight with pathetic and affectionate regret.

Queen Margaret College, Glasgow.

The University Court have appointed Mr. William MacLannan, M.B., C.M. Glasg., to be lecturer on Materia Medica and Therapeutics in Queen Margaret College.

Appointments under the Workmen's Compensation Act, 1897.

The following gentlemen have been appointed medical referees under the above Act:—Inverary: Mr. James Stewart; Oban: Dr. Dove M'Calman; Dunoon: Dr. John Ritchie; Campbeltown: Dr. John Cunningham; County of Berwick: Dr. John M'Watt; County of Linlithgow: Dr. J. C. Dunlop; Sheriffdom of Perth: Dr. Alex. Thom.

Memorial to the late Dr. Greig Smith.

A neat tablet in artistic brass has been placed on the wall of the lobby of the Aberdeen Students' Union. The inscription runs: "In Memory of James Greig Smith, M.A., M.B., C.M. Aberdeen, Professor of Surgery, University College, Bristol. This tablet is erected by his friends to commemorate his attainments as a surgeon and to recall his career to the students of the University of Aberdeen. Born 1854; died 1897."

Aberdeen University Buildings Extension.

The University authorities have every reason to expect at a very early date an additional donation of £15,000 to the funds for this scheme. A conference of various bodies is to be held soon as to the proposed retention of old Greyfriars Church which was made a condition of a gift of £10,000 offered by an anonymous donor.

History Lectureship, Aberdeen University.

Mr. Charles Sanford Terry, Clare College, Cambridge, has been appointed Lecturer in History by Aberdeen University Court. There were ten candidates. Mr. Terry is at present Lecturer in History in Durham College of Science, Newcastle.

Aberdeen Medical Volunteer Staff Corps.

Forty men of this corps left Aberdeen on July 29th for Aldershot for a week's training and for the purpose of taking part in the military manœuvres on Aug. 5th, along with detachments from the Universities of Edinburgh, Glasgow, and London. On finishing their training the men have the option of going home or of staying in the metropolis till October with the object of attending the large hospitals there.

Aug. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Queen's College, Belfast.

AT the medical class examinations held at the close of the summer session in the above College the following prizes were awarded:—Botany.—Sydney Herbert George Blakely, Robert James Bethune, Henry Mulrea Johnston, John M'Clatchey, James Hamilton Campbell, and James Kennedy Small. Practical Chemistry.—Senior: William Rodgers, M.A. Junior: John Knox, Samuel Hugh Whyte, and Alexander M'Cloy. Systematic Pathology.—William Matthew Hunter, Robert Steen, and Annie Helen Crawford. Practical Pharmacy.—John Hope Retford, B.A., and Marion Braidfoot Andrews.

Death of Mr. A. C. McCutcheon, L.R.C.P. & S. Irel.

I regret to announce the death at Wakefield, Yorkshire, on July 23rd, of Mr. Andrew C. McCutcheon. About three weeks ago he was seized with acute inflammation of the stomach and on July 23rd a serious change set in and he sank that night. A native of Ballymena, where his father is well known, Mr. McCutcheon studied in Dublin and gained many prizes at the Meath Hospital and at the Dublin College of Surgeons whose diplomas he obtained in 1892. Eighteen months ago he settled down in practice in Wakefield, Yorks,

where he was most popular with his patients. He was buried in Ballymena on July 26th, an immense concourse of friends following his remains to their last resting place. The greatest sympathy is expressed for his relatives in their sad bereavement.

Death of the Queen's Oldest Subject.

Mr. Robert Taylor, postmaster of Scarva, county Down, the oldest subject of Her Majesty the Queen, died at his residence Scarva, county Down, on July 25th. His age was problematical, but it is alleged that he was born in 1764, the date being arrived at by comparison of events current in his youth and with which he was more or less connected. It is based on statements made by himself many years ago, and those who in former times were intimately acquainted with him hold that he was 134 years of age. Others fix his birth year as 1780, which would make his age 118 years. Although latterly his physical strength was gradually decreasing his mind was clear until the end. A few months ago the Queen sent Mr. Taylor a beautifully-framed portrait of herself with the following inscription: "This picture is presented by Queen Victoria to Mr. Robert Taylor, postmaster of Scarva, on his having attained an almost unprecedented age, April, 1898." By his death the Queen has lost her oldest subject and county Down its grand old man. Those who are interested in centenarians may like the following, taken from the *Northern Whig*, a Belfast newspaper, for reference:—

County Down appears to be exceptionally favourable to longevity. Scores of centenarians have lived and passed within its borders during the last 300 years. We read of Adam Montgomery, who "lived so long in sound health (105 years) over in the Ards that he would play at hide-and-seek with his great-grandchildren." More remarkable was Alexander Bennett, who died in his 125th year at Downpatrick in 1745. Within a period of seven years (1749–56) died four such persons in Rathfriland—Jane M'Afee, 115; Isabel Laughlin, 118; Alexander Mackenzie, 120; Jane Mackenzie, 114. Doubtless the latter two were husband and wife. Two other Rathfriland men survived—to 106 Henry Cowe, 121 Samuel Malcolmson. The oldest of whom we have record was James Thomson, 131, who expired at Ballynahinch in 1796. James Martin, 112, and Mary M'Dowell, 118, also belonged to Ballynahinch, and others are associated with almost every town in the shire, the latest in the present century being Joseph Carnaghan, Waringstown, 108, and Peter White, Loughbrickland, 106. All of these were notable examples of perseverance and the effects of a salubrious climate, but none of them bore the burden of life so well or so lightly as Robert Taylor has done.

Queen's College, Belfast, and the Royal University of Ireland.

At the recent examinations of the Royal University of Ireland, Queen's College, Belfast, obtained 18 first honours, 28 second, and 18 exhibitions, or a total of 64 high distinctions. For comparison's sake the corresponding figures for other colleges may be given. They are as follows: Queen's College, Cork: no honours and no exhibitions. Queen's College, Galway: 4 firsts, 7 seconds, and 5 exhibitions; 16 in all. Magee College, Derry: 2 firsts, 4 seconds, and 1 exhibition; 7 in all.

The Ulster Eye, Ear, and Throat Hospital.

At the twenty-seventh annual meeting of this hospital, held on July 26th, it was reported that the total number of patients for the past year was 1507, and of these 220 were admitted into the hospital. The total receipts for the year were £655 0*s.* 5*d.* and the disbursements amounted to £941 11*s.* £381 16*s.* 10*d.* were received from intern cases and £120 3*s.* 10*d.* at the extern department. The total debt of the hospital now on general account is £470 12*s.* 1*d.* The whole hospital buildings and furniture have been insured for £6400.

Aug. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The International Congress on Tuberculosis.

THE fourth international congress on Tuberculosis opened in Paris on Wednesday, July 27th, at the Faculty of Medicine. The large theatre was entirely filled by a crowd of medical men, among whom were a large number of foreigners. The presidential chair was occupied by M. Nocard, Professor at the Veterinary School at Alfort, supported by M. L. H. Petit (general secretary) and Professor Brouardel, Professor Bouchard, Professor Potain, Professor Lannelongue, Professor Grancher, Professor Cornil, and others. M. Nocard delivered an opening discourse in which he eulogised Villemin and Verneuil, who were the original organisers of these congresses. He reiterated the assertion that contagion played a large part in the etiology of tuberculosis, giving it as his firm opinion that the complaint was one of those which were most easy to avoid and that out of 150,000 persons who yearly fell victims to tuberculosis in France 125,000 might have been saved if they had been protected from contagion. Next M. Petit, the secretary, gave an account of what had resulted from the application of the measures suggested by the congress of last year. The two first, which dealt with the question of providing spittoons in public elementary schools so as to train the children not to spit on the floor, have only just begun to be applied. The third measure, which declared that tuberculosis ought to be numbered among the infectious diseases and that its notification ought to be obligatory, has not been acted upon. The fourth measure, which related to the compulsory disinfection of places where tuberculous patients had died, is at present being carried out fairly completely, at least in Paris and the large towns. The last measure, which dealt with the question of receiving tuberculous patients in special hospitals, or of isolating them in general hospitals, has been acted upon in so far that at the Lariboisière Hospital, at the Laennec Hospital, and at the Boucicaut Hospital, wards have been set aside for the isolation of such patients. Six millions of francs (£240,000) have been reserved for the building of such wards in the hospitals of St. Antoine, Cochin, Broussais, Bichat, La Pitié, Tenon, and in a new hospital to be built on the right bank of the Seine.—The congress then commenced the hearing of papers and reports. Professor Bang, of the Veterinary School of Copenhagen, read a most important paper on the struggle which was going on against animal tuberculosis by means of prophylactic measures. He referred briefly to various measures taken in Europe for the inspection of meat exposed for sale which had been taken from tuberculous animals as well as the transmission of tuberculosis by milk. The most interesting statement he made was in reference to the regulations introduced this very year in Denmark, which absolutely forbid any dairy to sell separated (*écrémé*) milk without its being previously heated to a temperature of 85° C.; after this it is quickly cooled, which prevents it having any peculiar taste. Professor Storch has discovered a test to show that the heating to 85° C. has been really carried out, for milk treated in this way preserves its colour when there are added to it a drop of a solution of peroxide of hydrogen and 2 drops of a 2 per cent. watery solution of paraphenylendiamine, whilst milk which has not been heated to 85° C. turns blue.—Various papers followed, notably one by M. Letulle upon the Present Provision for Tuberculous People in Hospitals in Paris; one by MM. Arloing and Courmont upon the Employment and the Clinical Value of the Agglutination Test; and one by M. A. J. Martin on the Increase in Applications for Disinfection after the Death of a Tuberculous Patient, which were sent in by the public and which numbered 7000 for the first half of 1898.—The second matter for discussion on the programme was the application of the x rays to the diagnosis and treatment of tuberculosis. M. Claude read a very important paper on the subject of Diagnosis, and referred to the progress which had been made in the matter by means of the rays. M. Espina of Madrid related how he had made a very early diagnosis by this method. M. Bedard described how he had diagnosed a tuberculous hip-joint at its very commencement in the same way. Various members reported researches which they had made as to the action of the x rays on the vitality of Koch's bacillus both in living tissues and in cultures.—The third matter for discussion was the treatment of tuberculosis by serums and toxins. M. Landouzy gave a very complete account of the whole matter in a long paper. M. Maragliano detailed his method of treatment by toxins. Professor Hirschfelder of San Francisco has treated tuberculosis by the oxytuberculine obtained by heating tuberculine for 120 hours with oxygenated water. M. Arloing and M. Guinard have been studying the physiological effects of the different products obtained from cultures of Koch's bacillus.—Besides the actual meetings of the congress at the Faculty of Medicine various demonstrations have been given during its sittings. On the morning of July 27th members paid a visit to the Boucicaut Hospital, where M. Letulle showed the special appliances which they possessed for the treatment of tuberculosis. On the evening of July 28th an x ray demonstration as regards the diagnosis of affections of the chest was given in the physical laboratory at the Faculty of Medicine by Professor Gariel, and a similar demonstration was given on July 30th at the Charité Hospital by Professor Bouchard. On July 29th at the St. Louis Hospital in the dermatological clinic of Dr. Hallopeau, Professor

Bang of Copenhagen gave a demonstration of Professor Finsen's method of treating cutaneous tuberculosis by coloured and concentrated luminous rays. Sunday, July 31st, was devoted to a visit to the environs of Paris, in the course of which the various special hospitals established for the treatment of tuberculosis at Ormesson and at Villiers-sur-Marne were inspected.

Medical Clubs.

A scheme for the organisation of a medical club in Paris has just been put forward by Dr. Doléris. Its object is to form a rallying centre for foreign and provincial medical men during the exhibition of 1900, and the idea has already been fairly well received. It is also announced that a medico-pharmaceutical club has just been founded at Lille, and that it now numbers eighty members.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Navy Full Diet Table.

THE medical officers of the United States Navy have adopted a new full diet table for one day as follows (the number after each article relating to the ounces):—Breakfast: coffee, 1; bread, 4; butter, 1; milk, 6; sugar, 1; oatmeal, 1; beefsteak, 6. Dinner: rice-soup, 8; bread, 4; roast beef or roast or boiled fowl, 8; other vegetables, 6; pickles, 1; bread pudding with sauce, 6; or custard, 8; fresh fruit, 6. Supper: tea, 1–4; bread, 6; butter, 1; milk, 2; sugar, 1; cold roast mutton or cold roast beef, 4; stewed dried fruit or baked fresh fruit or apple sauce, 4. The staples, as coffee, bread, butter, milk, sugar, and fresh and dried fruits are the same for each meal, but there is a daily variety in meat and other articles for breakfast, dinner, and supper.

Liquid Air in Medicine and Surgery.

It was an Englishman who discovered how to produce liquid air, but an American has carried the investigation a bit further and now tells us how this discovery can be put to practical use, stating that in medicine and surgery its possibilities are vast. It is claimed that by means of this process air absolutely free from germs could be furnished in any amount, and if the stimulating effect of an excess of oxygen were desired it could be had without trouble quite free from the impurities which now make this gas so often objectionable. The temperature of hospital wards even in the tropics could readily be cooled to any degree prescribed by the physicians in charge, and by keeping the air about yellow-fever patients down to the freezing point the nurses would be perfectly protected against contagion and the recovery of the patients themselves facilitated. Again, the cauterising cold which liquid air is capable of producing might be used in cases of cancer with great benefit as compared with nitrate of silver since while it absolutely destroys the flesh to which it is applied its action is perfectly under control and can be stopped in an instant. It is probable, also, that hay fever, asthma, and even consumption could be greatly relieved without change of climate by this pure, cool, germless air.

The Michigan State Board of Health.

This board is about to celebrate the quarter centennial anniversary, and an effort will be made to place before the citizens of Michigan accurate comparative statements of the conditions affecting the public health, and of the actual conditions of health in Michigan before and since the board of health was formed, especially exhibiting, if it be true, that there has been a very marked improvement of the health of Michigan in recent years; statements of the principal dangers to life and health at the present time; a discussion of different measures for the further promotion of the public health of that State, and to place before those who may visit Michigan on that occasion the beauties of the various summer resorts around the Great Lakes and at the numerous inland lakes and other sanitaria, the general healthfulness of the State, and its advantages as a summer resort State.

The Maritime Provinces of Canada as a Summer Health Resort.

The popularity of the maritime provinces of Canada as a holiday resort has been rapidly increasing during the last few years. In the warmer months tourists have been going there in larger and larger numbers, crowding the steamers and trains and overflowing the hotels. The increase in the number of tourists has really been so great of late that it was difficult to provide sufficient accommodation in many of the favourite localities, and in numerous places visitors have had to put up with inconveniences which almost amounted to hardship. Now that the people have become aware of the popularity of the provinces, the business instinct has awakened and every effort has been put forth by railway, steamboat, and hotel men to prevent a repetition of the uncomfortable overcrowding to which the tourists of the last two or three seasons have had to submit. The train and steamboat service is to be augmented, so as to provide for any contingency, and numerous hotels have already been, or shortly will be, completed in the localities where the congestion has been most marked in times past. All this is being done because of the assurance that future seasons will bring even greater numbers of visitors than in the past.

American Sanitation of Havana.

The Louisiana State Sanitary Association recommends that as nearly every epidemic of yellow fever which has ruined our commerce and ravaged our shores has had its origin in the colony of convalescents, Havana, our representatives in Congress be requested to lay before the proper Federal authorities the necessity of stamping out the yellow fever there, to the end that when the war now existing between Spain and the United States is ended and the articles of peace are drawn up it shall be nominated in that bond that "the sanitary regulations of Havana shall immediately commence under the surveillance of American sanitarians and engineers." The same association approves the plan of having medical inspectors attached to those consulates where yellow fever and cholera are epidemic with a view to securing for our protection definite information as to the exact sanitary condition and the presence or absence of contagious diseases in such consular districts and that congress be urged to make the necessary appropriation to carry the plan into effect. Also this association is of the opinion that it is a duty devolving upon all nations to take measures to eradicate any plague centre from their territory, and that the existence of such centres is a menace to all nations, and that our State department be requested to take measures through proper diplomatic channels for the conveyance of this opinion to the governments deemed obnoxious to the opinion herein expressed.

July 19th.

Obituary.

WILLIAM FRANCIS ADAMS, L.R.C.P. LOND., M.R.C.S. ENG.

MR. W. F. ADAMS, the senior assistant medical officer at the Cornwall County Asylum, Bodmin, was found dead in his bed on July 27th. He was the youngest son of Mr. Richard Adams, L.R.C.P. Edin., M.R.C.S. Eng., who a few months ago resigned the post of medical superintendent at the Cornwall County Asylum after having held the appointment for many years. The deceased, who was only twenty-six years of age at the time of his death, received his medical education at the London Hospital and obtained the qualifications of L.R.C.P. Lond. and M.R.C.S. Eng. in 1892. Shortly afterwards he was appointed junior house surgeon at the South Devon and East Cornwall Hospital, Plymouth. Mr. Adams had a lifelong connexion with the Cornwall County Asylum and his recent appointment on the medical staff was a very popular one. Much regret is felt at his early death and the deepest sympathy is expressed in Bodmin for his bereaved parents. At the inquest held on July 28th a verdict was returned of "Syncope resulting from fatty degeneration of the heart."

POOR-LAW CONFERENCE.—Lord Edmond Fitzmaurice, M.P., presided at the South-Western Poor-law Conference held at Plymouth last week. Dr. H. Rayner contributed an interesting paper upon the Treatment of Pauper Imbecile and Feeble-minded Children. A resolution was passed stating that it was imperative to make special provision for the treatment of these children and advocating the establishment of one or more central institutions in the south-western counties for the purpose.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT EDINBURGH.

THE sixty-sixth annual meeting of the British Medical Association came to a successful termination on Saturday last.

Principal Sir William Muir, the President, and the other members of the Senatus Academicus of the University of Edinburgh held a reception on Thursday, July 28th, to which members of the British Medical Association were bidden. The guests were received in the library hall of the University and there was a large attendance. Sir William Priestley, the representative of the University in Parliament, has recently borne the expense of the redecoration of the library hall and his generosity has been well expended. The fluted pillars have been painted cream colour with white stone bases; the panels in the roof have been tinted light blue, and the carved mouldings and frieze have been gilded, the background being a deep red. The electric light was used for the first time in the building on this occasion.

A reception was also given on Thursday afternoon to the Association by the President and Fellows of the Royal College of Surgeons of Edinburgh in the Surgeons' Hall. There was a large gathering of guests, more than 300 ladies and gentlemen being present. The guests were received in the committee-room by the President of the College, Professor Chiene, with whom were Mrs. Chiene and several of the office-bearers of the College. There was a reception by the Royal Medical Society in their rooms at Melbourne-place on the same afternoon. The Presidents of the society, Dr. T. A. Ross, Dr. H. S. Ballantyne, Professor G. L. Chiene, and Dr. E. E. Porritt, received the guests, who numbered between 200 and 300, in the large hall, which was tastefully decorated for the occasion.

A reception was held also on Thursday afternoon by the Royal College of Physicians of Edinburgh in their premises in Queen-street to which the members of the Association were invited. Owing probably to the wet weather the attendance of guests was small compared to the number of invitations which had been issued. It had been arranged that after being received in the College the visitors should adjourn to the gardens opposite the building and enjoy the band and pipe music to be provided, but the weather caused this part of the programme to be departed from. The guests were received in the hall by the President, Sir John Batty Tuke. On the same afternoon a large number of members of the Association visited the Royal Hospital for Sick Children upon the invitation of the directors and medical staff.

Professor and Mrs. Bayley Balfour's garden party to the Association on Thursday also suffered from the effects of the weather. The host and hostess were at home from 4 till 6 o'clock at Inverleith House, within the grounds of the Royal Botanic Gardens and Arboretum, but only during an interval of half-an-hour, when the rain ceased, could the guests take an opportunity of visiting the botanic garden, the palmhouses, and the greenhouses. Over 200 ladies and gentlemen accepted Professor Balfour's kind invitation.

On Thursday afternoon a number of Sir John Struthers's old pupils met at his house in George-square to present him with an address of congratulation upon his having received the honour of knighthood. Sir John Struthers, who is President of the Section of Anatomy at the present meeting of the Association, had not been in sufficiently good health to attend the meetings, and acting under medical advice was compelled to refuse the invitation of his old pupils to a dinner in his honour.

Some 450 members and guests assembled in the Music Hall, George-street, on Thursday evening, when the annual dinner of the Association was held. The scene presented recalled that of the dinner held at the Queen's Hall, Langham-place, when the British Medical Association met in London in 1895, but on the present occasion the addition of scenery to the elaborate arboreal decorations which characterised the London gathering increased the effectiveness of this artistic treatment of the hall. The organ was screened off by a scene representing Edinburgh Castle, with the Argyll Tower in the foreground, whilst the back-gallery was transformed into a rural landscape. Professor Sir Thomas Grainger Stewart, the President of the Association, occupied the chair and he was supported on his right by Lord Provost Mitchell Thompson, the President of the Council (Dr. Saundby), Sir William Broadbent, the President of the Royal College of Physicians of Edinburgh (Sir J. Batty Tuke), Dr. Roddick, Montreal (ex-president of the Association), Professor Bowditch, Professor Osler, the Lyon King of Arms (Mr. J. Balfour Paul), Fleet-Surgeon Corrie, the Rev. Dr. Whyte, Colonel Rooney (principal medical officer on the Scottish Military Headquarters Staff), Dr. Constantine Holman, Professor Snellen, Dr. Henry Barnes, Professor Morisani, Professor Simpson, Professor Kocher, Sir William Stokes, and Mr. Bryant; while on his left were General Chapman, Sir William Priestley, M.P., Dr. Ward Cousins, Professor Chiene, Professor T. R. Fraser, Professor Gerhardt, Dr. F. T. Roberts, Dr. Howard Kelly, Professor Blanchard, Dr. Farquharson, M.P., the Rev. Dr. Blair, Dunblane; Mr. Macnamara, Professor Doyen, Mr. Wheelhouse, Professor Rosenstein, Sir Charles A. Cameron, Sir Andrew M'Donald, Professor Sir Henry Littlejohn, Professor Boeck, and Dr. Dawson Williams. The toast of "The Queen" was received with enthusiasm as was that also of "The Prince and Princess of Wales and the Royal Family," both proposed by the President, who said that everyone must sympathise most cordially with the Prince of Wales in the trying circumstances in which he was now placed. "The Navy and Army" was next on the list and in proposing the toast the President said that our navy had done so much for us, it kept us so safe, it grew so wonderfully, and it had such an amount of power of work in it, that all felt as secure as any nation could do which had to depend upon defences of that sort against possible enemies. They had present as a representative of the navy one of their own profession, Fleet-Surgeon Corrie, who had sailed under the Queen's flag in every clime and had served in every possible way. The army had done a good many things in its time and they were honoured that night with the presence of a distinguished officer, the officer commanding the army in Scotland, who from his long experience knew something about warfare and army organisation. Fleet-Surgeon Alfred Corrie, R.N., and General Chapman having briefly replied, Dr. Roddick (Montreal) proposed "The Lord Provost, Magistrates, and Town Council of Edinburgh," coupled with the name of the Lord Provost, who, in his reply, said that Dr. Roddick had alluded to Edinburgh having taken the lead (if he might put it in that way) in regard to the care of public health. For that distinction they were indebted to two gentlemen. First, his friend Sir Henry Littlejohn, who had been for many years medical officer of health; and secondly, the convener of the Public Health

Committee, Bailie Pollard, who had been spoken of as an expert in the care of public health. He (the speaker) had no doubt that when the Association did them the honour to come back again to Edinburgh they would see in full operation a hospital for the treatment of infectious diseases second to none in the kingdom. Professor F. T. Roberts proposed "The Houses of Parliament," which was responded to by Sir William Priestley, M.P. The toast of the evening, "The British Medical Association," was proposed by Professor Bowditch, Harvard College, Boston, U.S.A. The fact that an American should have been selected to propose this toast he regarded with peculiar satisfaction, because it suggested a subject so much in their minds and on their tongues—the essential unity of the two nations. It was no new proposition to say that in all essential matters the interests of the English-speaking races were identical all over the world. This had been accentuated during the last few months owing to the war now rapidly approaching a termination and nothing had given him more satisfaction than to see the thorough appreciation of the gallant deeds of the American navy by everybody on this side of the Atlantic. The sentiment in America was as warm as it was in this country. There was a Continental Anglo-American Medical Association composed of medical practitioners from America and England practising in the cities of northern Europe and Africa, and this was another way in which nations might combine for common purposes. This Anglo-American idea was capable of being indefinitely extended. It was a plant which could be cultivated and he had no doubt it would be cultivated and would bear fruit in various directions. He saw no reason why they should not have an Anglo-American standard of medical education. A great deal might be done in this way and he commended the thought to the Association as the guardians of medical education. Dr. Saundby, President of the Council, in his reply said that with reference to what Professor Bowditch had remarked about Anglo-American relations he was sure they all reciprocated most fully what that gentleman had said, but he was not at all sure that anything like a really formal acknowledgment of American education and American degrees was, at the present time at any rate, within the range of practical politics. They had to thank the Lord Provost for his kindness in welcoming them to the city, in gracing by his presence their various meetings, and in showing them such splendid hospitality. They had also to thank the University for having placed its buildings at their disposal; the Royal Colleges of Physicians and Surgeons for the hospitality they had shown; and the local profession, and especially those gentlemen who had held office in the Executive Committee and as secretaries, for the work they had done in organising the present splendid meeting, which was certainly one of the very best meetings which it had been his privilege to attend—he would almost say one of the best meetings in the history of the Association. Professor Osler (Baltimore) gave the toast of "The President," who, he said, was a gentleman worthy of Edinburgh, worthy of the profession of a great Empire, and worthy to control the destinies of that great Association. The President having replied Professor Chiene proposed the toast of "The Guests." Professor Gerhardt (Berlin), Professor Howard Kelly (Baltimore), Professor Blanchard (Paris), and Professor Kocher (Berne) responded. The proceedings terminated with the singing of "Auld Lang Syne" shortly before the clock chimed the hour of 12.

In the rooms of the Royal College of Physicians of Edinburgh a reception and conversazione was given on Thursday night by the local Ladies' Committee. There was a great gathering of ladies and gentlemen in response to the 2000 invitations which had been issued. The company were received by Lady Grainger Stewart and Mrs. Argyll Robertson, the conveners, and Mrs. Underhill, the honorary secretary of the Ladies' Committee. The rooms, corridors, and staircases were decorated with palms and evergreens and coloured lights were hung among the trees skirting the upper walk of the eastern portion of Queen-street Garden. Music was supplied by Mr. Dambmann's band and a vocal concert was provided at which Miss Macdougal, Miss Pyatt, Mr. A. Bach and others assisted. This concert was held in Queen-street Hall.

The principal function on Friday, a much more fortunate day in respect of weather than Thursday, was the garden party at Hopetoun House given by the Earl and Countess of Hopetoun. A thousand invitations were issued to members of the Association and a thousand to the neighbouring gentry and military garrison and to the leading citizens of Edinburgh. A number of the guests went from Edinburgh by the North British Railway to Dalmeny and drove thence to Hopetoun House, but the greater part of the members of the Association drove the whole way and in so doing enjoyed an ever-changing series of splendid views. The gardens of Hopetoun House were looking their best and the splendid views of the Forth, combined with the warm reception of Lord and Lady Hopetoun, worked together to make the garden party a most pleasurable experience for all.

On the invitation of the President and Council of the Society of Scottish Artists a conversazione was held on Friday afternoon in the exhibition rooms of the society, 18, George-street, when a large number of members of the Association and others were present. Mr. James Cadenhead, R.S.W., chairman of the Council of the Society, received the guests.

Through the kindness of Dr. J. Cossar Ewart, Regius Professor of Natural History in the University of Edinburgh, 100 of the members of the Association spent a pleasant and instructive afternoon at Penicuik on Friday, July 29th. The party leaving the Waverley Station by special train at 2 P.M., arrived half an hour later at Penicuik, where they were met by Dr. Badger, medical officer of the burgh, and by him were conducted to The Bungalow, Professor Ewart's house. The visitors were first shown Professor Ewart's photographs bearing on the experiments which he has carried on at The Bungalow during the past four years. These included photographs of Matoppo, the Burchell zebra, whose progeny, Romulus, is believed to be the first cross obtained between an ordinary mare and a zebra stallion. Numerous photographs of the hybrid zebras were shown, as was also a valuable series of the embryos secured by Professor Ewart in the course of his investigations into the development of the skeleton of the limbs of the horse. Proceeding to the lawn the visitors found ranged round it cages containing pigeons, rabbits, dogs, &c., in evidence of the changes produced by cross-breeding. They then proceeded to the quadrangle at the rear of The Bungalow and saw all the horses and zebra hybrids in the extensive stud, while Professor Ewart gave a detailed account of his experiments. This was a very delightful afternoon for all.

The last festivity in connexion with the British Medical Association meeting at Edinburgh was a ball given in honour of the Association by the Edinburgh Corporation. The Corporation had no hall large enough to hold all the members of the Association, but the officials did their best in the circumstances to distribute the tickets at their disposal impartially and those who were present—and they numbered over 800 of the members—enjoyed a very pleasant

evening. About 400 citizens had been invited, chiefly those who have been the hosts of the visitors during the week. The reception of the guests began at half-past eight o'clock by Lord Provost Mitchell Thomson and Mrs. Mitchell Thomson. With them, in their robes of office, were Sir James Russell, Bailies Mackenzie, Hay, Steel, Gulland, and ex-Bailies Dunlop, Grieve, and Gray. The hour was somewhat early and the guests at first came very slowly; but after the official reception was over and the dancing had commenced the Lord Provost and Mrs. Mitchell Thomson received the late comers in a less formal fashion under the gallery. Dancing was carried on simultaneously in the Music Hall and Assembly Rooms and was continued with spirit until early on Saturday morning. Two Scotch reels were danced to the edification of lowland and foreign visitors.

The summer graduation ceremonial of the University of Edinburgh took place on Saturday, July 30th, in the M'Ewan Hall, in the presence of most of the members of the British Medical Association, who had attended the meeting just concluded. Principal Sir William Muir presided and he was accompanied to the platform by Sir William Priestley, M.P. for the University, Lord Provost Mitchell Thomson, Lord Pearson, and a large representation of the Senatus Academicus. The honorary degree of LL.D. was conferred upon the following gentlemen among others: Dr. H. Pickering Bowditch, Professor of Physiology in Harvard University; Sir William Broadbent, M.D., F.R.S.; Dr. Lauder Brunton, F.R.S.; Dr. Eugene Doyen of Paris; Dr. David Ferrier, F.R.S.; Dr. Joseph Forster, Professor of Hygiene and Bacteriology in the University of Strassburg; Dr. Carl Gerhardt, Professor of Medicine in the University of Berlin; Mr. Hutchinson, F.R.S.; Dr. Theodor Kocher, Professor of Surgery in the University of Berne; Dr. August Martin, Professor of Gynæcology in the University of Berlin; Dr. Johann Miculicz, Professor of Surgery in the University of Breslau; Dr. Morisani, Professor of Midwifery in the University of Naples; Dr. William Osler, F.R.S., Professor of Medicine in the Johns Hopkins University, Baltimore; Dr. William S. Playfair; Dr. Thomas Roddick, Professor of Surgery in the M'Gill University of Montreal, ex-President of the British Medical Association; Dr. Siegmund Rosenstein, Professor of Clinical Medicine in the University of Leyden; Dr. Herman Snellen, Professor of Ophthalmology in the University of Utrecht; and Sir Richard Thorne Thorne, F.R.S. A number of graduates had conferred upon them the degrees of M.A., D.Sc., M.D., and M.B. The address to the graduates was delivered by Professor Bayley Balfour.

THE GENERAL MEETINGS.

THE THIRD GENERAL MEETING.

The third general meeting was held on Thursday afternoon, July 28th, in the M'Ewan Hall, under the presidency of Sir THOMAS GRAINGER STEWART.

Dr. SAUNDBY, President of the Council, announced that the Section of Tropical Diseases had asked the Council to bring before the general meeting the desirability of petitioning Government to send an expert pathologist to South Africa to investigate black-water fever. He moved that the general meeting should make a representation to Government to that effect.

Professor CHIENE seconded and the motion was agreed to.

Professor ANNANDALE then delivered the Address in Surgery which was published in our columns last week.

Mr. BRYANT, in moving a vote of thanks to Professor Annandale for his address, expressed his warm approval of the observations upon the moral aspect of the profession.

Professor BENNETT, in seconding the vote, spoke of the debt which the medical profession were under to Professor Annandale not only for his excellent address, but also for his surgical and pathological writings and for the beautiful series of examples of injuries to the elbow-joint which he had laid before the Association.

The vote of thanks, which was heartily accorded, was acknowledged by Professor ANNANDALE in a few words.

THE CONCLUDING GENERAL MEETING.

The fourth and concluding general meeting of the Association was held on Friday morning, July 29th, in the M'Ewan Hall, under the presidency of Sir THOMAS GRAINGER STEWART.

Sir JOHN BATTY TUKE, who was received with applause, delivered the Address in Psychological Medicine, which will be found printed in another part of this issue of THE LANCET.

At the close of Sir John Batty Tuke's eloquent and learned address, Dr. BLANDFORD proposed a vote of thanks to him, which was seconded by Professor MCDONALD of New York, who called attention amidst applause to the good feeling now existent and growing between his country and the mother-country.

The vote of thanks was passed unanimously.

Dr. SAUNDBY, the President of the Council, then proposed that the hearty thanks of the Association should be tendered to the Lord Provost, Magistrates, and Council of Edinburgh for the hearty welcome accorded to the Association; to the Lord Provost and Mrs. Mitchell Thomson for their reception in the Museum of Science and Art; to the Dean of the Chapel Royal for permission to hold Divine service in St. Giles's Cathedral; to Dr. Whyte for his sermon, and to Dr. Blair for his assistance in the service; to the University Court for the use of the splendid buildings of Edinburgh University; to the Senatus Academicus, to the Royal College of Physicians and Surgeons, Edinburgh, to the Royal Medical Society, to Lady Grainger Stewart, to the Duke of Buccleuch, to the Marquis of Bute, to the Earl of Hopetoun, and to the others who had entertained the members; to the managers of the Royal Infirmary and various hospitals for opening their institutions; to the committee of the Masson Hall and to the various clubs and to the Philosophical Institution and other bodies which had given the use of their premises to the Association; to the members of local branches of the Association for their hospitality; to the medical faculty of the University of St. Andrews; to the presidents of sections; to the chairmen and honorary secretaries of committees for their successful arrangements; to Dr. R. W. Philip and Mr. J. Shaw M'Laren, the local secretaries; to Dr. C. E. Underhill and Dr. P. A. Young, the treasurers, for their successful labours; and to their distinguished foreign visitors for their presence.

Dr. P. M. DEAS seconded and the resolution was agreed to unanimously and enthusiastically.

Dr. SAUNDBY then proposed a vote of thanks to Sir Thomas Grainger Stewart for the admirable manner in which he had presided over the session of the Association now drawing to a close.

This was seconded by Dr. HENRY BARNES, the President of the Association two years ago, who spoke of Sir Thomas Grainger Stewart as having "furnished by his example one of the greatest incentives to progress in medical study that any one could have," and who desired to include the name of Lady Grainger Stewart in the vote of thanks.

The vote was carried by acclamation.

Sir THOMAS GRAINGER STEWART replied in a few modest words, in which he attributed any success in administration to "those splendid fellows who had put their shoulders to the wheel and done the work," the honorary secretaries.

The meeting then terminated.

THE SECTIONS.

MEDICINE.

THURSDAY, JULY 28TH.

The Open-air Treatment of Phthisis.

A paper on this subject had been read and patients exhibited at the meeting on Wednesday by Dr. CAVERHILL, but the discussion on the matter had been adjourned until to-day.

Dr. CALWELL (Belfast) thought that the treatment of phthisis might be preventive and curative. The former we now know but do not sufficiently practise. No drug was specific, whereas, on the other hand, the open-air treatment, if carried out long enough, infallibly restored to health unless

the cases at the outset were too far advanced. This treatment should be carried out in its entirety or left alone, without temporising, and it was far better done away from friends, who interfered too much. It consisted of continuous living in open-air night and day, great attention to diet, exercise regulated to the needs of the different cases, watching the temperature and pulse of the patient, absence of furniture in the room and anything else which could catch dust or diminish the cubic space.

Dr. BERNARD J. GUILLEMARD (Cape Colony) narrated his experience in South Africa on the high lands in the interior. The soil was sandstone. The winter season was perfect and the results of treatment were very satisfactory.

Dr. P. SIDNEY JONES (New South Wales) confirmed the advantages to be derived from South Africa. He also wished to draw attention to the value of the Australian climates. In both of these places the climate in different parts differed very greatly and physicians who sent patients out should bear this in mind.

Miss JANE WALKER, M.D. Brux. (London), had tried the open-air treatment of phthisis on a farm in Norfolk and had found the conditions there very satisfactory. She thought it unnecessary to go so far away from home.

Dr. BEZLY THORNE (London) spoke to the advantage of open-air treatment, mentioning Falkenstein as a favourite locality, but he wished to confirm the remarks of the previous speaker. He mentioned the case of a young woman in an advanced stage of phthisis who was, however, so reduced in circumstances as to be unable to go abroad. She spent all her time in Kensington-gardens in all weathers, lived with the window open night and day, took plenty of exercise and food, and in the course of six months was quite well again.

Dr. W. DENTON JOHNS (Bournemouth) thought that many cases might be treated just as well at home if we could only enforce discipline, diet, &c., and control the friends.

Dr. H. J. CAMPBELL (Bradford) thought the great source of fallacy lay in selecting the appropriate place for the particular case, both as to its variety and stage, and the coöperation of the local physician was much needed in this respect.

Mr. FREDERICK CHURCHILL (London) indicated by means of drawings what structural arrangements he thought should exist at all our south coast watering-places for the treatment of such invalids.

The Significance and Consequences of Different States of Vascular Tension with their General Management.

Sir WILLIAM BROADBENT (London), in opening this discussion, said he thought it wise to limit the debate to arterial tension—i.e., arterial blood-pressure, excluding the venous system. Nor did he propose to touch on the question of testing blood-pressure by different instruments. Vascular tension essentially depends on the force and quantity of blood delivered at each systole of the heart and also on the resistance in the small vessels—i.e., the peripheral resistance. Owing to the size of these, capillary attraction and the friction of their walls are important factors. The pulse is our means of estimating vascular tension, and about this there are four points to note:—(1) the size of the vessel, which varies in some individuals at different times and widely in different individuals; (2) the state of the artery between the beats—whether it is full and round or collapsing and flat; this is the best test of the state of the peripheral resistance; (3) the character of the rise of each stroke (the aortic wave) whether short and gradual or high and sudden; and (4) the degree of pressure required to obliterate the vessel and stop the pulse. Turning first to low vascular pressure, its causes and significance, it may be noted that low tension is often found in long-lived persons who will tell us, perhaps, that they always had a weak heart. But in all cases it is necessary to examine the heart as well as the pulse. Lowered vascular tension is also met with in fever and it may be the chief cause of the lowered nutrition, there being not sufficient pressure in the capillaries to ensure nutrient fluid exuding. Lower vascular tension is often associated with neurasthenia and is also met with in other conditions of debility. It is met with in epilepsy and may be one of the factors in the production of fits. Turning, on the other hand, to conditions of high arterial tension, it is to be remembered that this often runs in families and may then be found under these circumstances in very young persons. The effects of continuous high arterial tension are very important and include hypertrophy or dilatation of the heart, dilatation of the aorta, atheroma of the walls of the aorta and large vessels, fibroid condition of the heart, and thickening of the valves. Variations in vascular pressure are of universal application in all kinds of disease. In neurasthenia, for example, the speaker had always more hope of a case when the vascular tension was high, for in such cases it is possible for the impurity of the blood, which is the cause of neurasthenia, to be eliminated. It was in cases such as these that a dose of blue pill changed the whole aspect of the world. In melancholic conditions the vascular tension was usually high; in maniacal conditions it was usually low. If this fact be borne in mind it helps us to understand how it is that sometimes morphia increases maniacal conditions instead of producing sleep, by lowering vascular tension. Attention to the arterial tension will often enable us to foresee such untoward effects. In epilepsy we find the two extremes of vascular tension are associated with the convulsions; when the tension is low the prognosis is less favourable, because the fits are then less dependent on the vascular condition. Uræmic convulsions are directly associated with high blood-pressure and not the uræmic poisons in the blood. Convulsions occur in high arterial tension from other causes. In many cases of gouty bronchitis, recurrent attacks of bronchitis in a gouty subject are usually attended by a pulse of high tension, and consequently the treatment of these cases is more successful by eliminants than by climatic treatment. As regards Cheyne-Stokes respiration the speaker had never seen it without high vascular tension. By some this symptom has been attributed to irritation of the respiratory centre or the cerebral hemispheres, yet, strange to say, a patient may go on with his business while the symptom continues for months. But in the speaker's opinion it was usually associated with high tension and he had more than once been able to observe a direct association. Cheyne-Stokes respiration must not be confused with "cerebral respiration," in which there was a complete cessation of breathing and then a sudden start after an interval. Turning to the general management of variations of blood-pressure Sir William Broadbent first considered states of low tension. The essential origin of the condition must be ascertained, whether it be some vice of nutrition, some digestive derangement, or perhaps the absence of some internal glandular secretion, especially the suprarenal. In this connexion it had recently been shown that cancer may cause death by some toxin it secretes. The drugs most useful here are digitalis and caffein, which help by their diuretic action to eliminate. The chief cause of high tension is some toxic condition of the blood, which must be eliminated. Here diaphoretics, moderate exercises, baths, diuretics, and purgatives are useful. He attached the greatest importance to mercury. Other purgatives, dose for dose, were not nearly so valuable as calomel, which seemed to have almost a specific action. As regards the contra-indication of mercury in albuminuria he believed the old superstition was now quite exploded. At any rate, it was a fact that uræmic convulsions could be averted by calomel. Nitro-glycerine and erythrol tetranitrate were useful when other measures were inapplicable.

Professor J. B. BRADBURY (Cambridge) said that the question which interested him most was the general management of vascular conditions. This naturally raised the previous question of their significance and effects, though it would not be necessary to consider the conditions dependent on cardiac valvular disease. Of the opposite conditions of intra-arterial blood-pressure high tension is the more important. Low tension is mainly of prognostic and therapeutic value and is dependent upon some condition apart from the blood and blood-vessels. Palpitation is the most common symptom of relaxed arteries, but in most instances this is primarily of nervous origin. The treatment of low tension is that of its cause. High tension, on the other hand, is directly dependent on blood, cardiac, or vascular conditions—to a certain extent on hereditary and nervous influences—and it is an important causal factor in disease. Certain poisons—lead, alcohol, alimentary toxins, the poisons of gout, syphilis, influenza, &c.—seem to cause an arterio-capillary contraction, intra-arterial blood-pressure is raised, and apart from immediate symptoms changes in the heart and vessels and subsequently in other tissues occur. Owing to this, the treatment of high arterial pressure becomes an important measure, and much may be done to alleviate the condition. With care the patient may even live to a good old age. Thus at present the speaker had under treatment an old lady, aged eighty-nine years, who had been under his care for about ten years. She

suffered from copious attacks of hæmatemesis when he first attended her and these gave her much relief. Latterly she had been less troubled with the "black-vomit," but had found relief from distressing head symptoms—including "word-blindness," &c.—by frequent doses of mercurials and saline aperients and a carefully-regulated diet. Her case might be regarded as a typical one of what his colleague, Professor Allbutt, had designated "senile plethora." From the point of view of treatment, cases of high arterial blood-pressure may be divided into the more or less curable and the incurable. In some conditions—e.g., pregnancy—it is merely temporary and passes away with this condition. In anæmia it is quite curable, but this is not so in other diseases. In these cases, especially after middle age, pathological changes occurred in the arteries (and other tissues), and these changes tend to keep up the high arterial pressure. In old people where the arterio-sclerosis is extreme complete cure cannot result. All grades of high arterial tension occur and in all some improvement may be expected. The essential object in the majority of cases is to rid the blood of its toxic substances, to prevent their reaccumulation, to keep down the arterial blood-pressure by careful dieting, judicious medicinal treatment, and moderate daily exercise. Potassium iodide and purgatives, mercurial and saline, are extremely useful, but often they are insufficient, especially if immediate relief—as when pain, dyspnœa, &c., are present (symptoms for which the patient usually seeks advice)—is required. Here vaso-dilating drugs are necessary, and amyl-nitrite, nitro-glycerine, chloroform, or, when a long-continued action is required, erythrol tetra-nitrate may be used. The last is especially adapted to those cases in which pain is not severe but of long duration, or in warding off expected attacks for a time—cases such as the speaker quoted in detail. A man, aged sixty-two years, complained much of oppression behind the sternum. There was no history of gout, but he had had intermittent fever and lumbago and tonsillitis. There was no cardiac bruit, but marked increased arterial tension. The condition had existed for about six months. The appetite was good, the bowels were costive, and he slept fairly well. The attacks usually came on in the early morning and lasted for about five minutes. Erythrol tetra-nitrate (1 gr.) gave great relief, nitro-glycerine very little. A course of blue pill and later potassium iodide with occasional purgatives was enjoined; but although considerable improvement occurred erythrol tetra-nitrate had constantly to be taken to ward off the attacks, which it did most effectually if taken the last thing at night. In the *British Medical Journal* of April 10th, 1897, the speaker had described a case of angina pectoris which erythrol tetra-nitrate (1 gr. every 4 hours) kept at bay. This patient also tried mannitol hexanitrate in 3 gr. tabloids at 10 A.M. and at 2 P.M. and 6 P.M., but the effect was not so satisfactory as with the erythrol tetra-nitrate. In fact, the patient at once gave it up for the latter drug. An interesting case simulating Raynaud's disease had recently come under his notice. This case was of interest as M. Huchard had endeavoured to show that spasm of the arterioles producing arterial hypertension is an early phenomenon of arterio-sclerosis and that it often long precedes the material lesion properly so-called. Dr. Duncan had sent to the speaker notes of a case of interstitial nephritis with uræmia in which he believed the patient's life was saved by erythrol tetra-nitrate. There were œdema of the lungs with very distressing dyspnœa and Cheyne-Stokes respiration, very high tension pulse, most irregular action of the heart, insomnia (in spite of hyoscine hydrobromide given hypodermically up to $\frac{1}{75}$ gr.) practically for six days—with the exception of fifteen or twenty minutes in each twenty-four hours—scanty urine and (for the two nights previously to taking the erythrol) delirium. Dr. Duncan had written on July 11th: "The patient a fortnight ago yesterday—i.e., June 26th—was apparently moribund, but erythrol tetra-nitrate was given as a last resource. The effect it had was really marvellous and the patient has steadily improved every day, so much so that on Saturday, July 9th, he was able to go downstairs. The pulse is now quite regular and soft, the œdema of the lungs has disappeared, and the amount of urine has greatly increased, amounting to nearly 80 oz. on some days." Charts were exhibited showing the comparative physiological action of several vaso-dilators.

Dr. T. D. SAVILL (London) wished to draw attention to what he regarded as far the most important and serious consequence of persistent high tension. In the years 1887–88 he was first struck by the much greater thickness of the arteries in some bodies than in others in the post-mortem room, especially in aged persons, and upon further investigating these cases he found that they had suffered from symptoms of high arterial tension during life. The increased thickness was mainly due to an increase in the middle or muscular coat—i.e., the functionally active part of the arterial system. He had proposed the provisional title "arterial hypermyotrophy" for the condition, and its frequency was evidenced by the fact that out of about 280 necropsies he had made during 18 months in 1891–92 he had found 39 marked cases (14 per cent.) of the condition without counting slighter cases. These cases had all revealed symptoms of high arterial tension in their past histories and there was no doubt it was the consequence of this. The majority of these 39 cases had been free from renal disease. Microscopic sections and photographs were shown and it was pointed out that the change was a true hypertrophy, though this hypertrophy might or might not be accompanied by senile changes such as atheroma, endocarditis, &c. A granular condition with swelling of the fibres was a very constant senile change, but the essential lesion was a true numerical increase in the fibres of the middle coat, and it was an illustration of the physiological law that increased function leads to increased growth. The condition "arterial hypermyotrophy" which he had discovered in the deadhouse corresponded with a clinical condition which Professor Clifford Allbutt had described under the name "senile hyperpiesis" or senile plethora. The disease could be recognised during life by symptoms he had already described.[1] "Senile vertigo" and "senile syncope" with headache and the thickened elastic cord-like feel of the arteries were the characteristic symptoms, and it was extremely important to recognise it in persons of advancing life, for these patients had perpetual high tension and were liable to apoplexy and other hæmorrhages, which could be prevented by timely treatment.

Dr. WATSON WILLIAMS (Bristol) thought that high arterial tension was not always to be regarded as pathological and evil in its consequences. Sometimes it represented a physiological effort to meet a temporary difficulty in the system and undoubtedly in renal disease it had a favourable prognosis.

Dr. DAVID DRUMMOND (Newcastle) adverted to the low arterial tension of longevity and the importance of low tension for health. He could not agree with Sir William Broadbent that Cheyne-Stokes respiration was always associated with high arterial tension and he mentioned several cases in point.

Dr. ALEXANDER HAIG (London) asked if the time had not come when the right name could be given to the toxin which caused high arterial tension—viz., uric acid. His own case was a case in point, for he used formerly to suffer severely from headaches and all the symptoms of high tension until he had discovered that uric acid was at the bottom of it and that by controlling this he could regulate his arterial tension and so procure relief.

Dr. HANDFORD (Nottingham), Dr. SAMWAYS (Mentone), Dr. TYSON (Folkestone), and Dr. HADDON (Denholm) also took part in the discussion.

In reply Sir WILLIAM BROADBENT said he was quite prepared to admit the value of high tension in some conditions. In renal disease, for instance, low arterial tension greatly added to the gravity of the prognosis. He had always regarded (with Dr. Haig) uric acid as a cause of high tension, but only one of the causes—there were many others. He mentioned a case of epilepsy which had been sent to him by Mr. Horace Sworder in which the fits disappeared when appropriate changes were made in the diet, showing the association of high tension, uric acid, and fits. He confirmed the value of erythrol tetra-nitrate so far as his experience went.

Dr. DAVID DRUMMOND (Newcastle) read a paper on two cases of

Ether-pneumonia.

which he had observed. Cases of death after operation were, he thought, often attributed to sepsis which were really due to pneumonia started by ether. He narrated a case in which, under ether, the operation lasted one hour. It was attended by severe cough and next day the temperature rose to 102° F., and the following day there was dulness at the bases which spread upwards. The patient gradually became somnolent

[1] Brit. Med. Jour., Jan. 23rd, 1897.

and died in a few days. At the necropsy the right lung presented intense engorgement and œdema with consolidation below. There was a large excess of red blood cells in the alveoli. As to causation of ether-pneumonia, some had thought it microbic in origin, but he (the speaker) thought the ether was the sole cause. Previous pulmonary disease was a predisposing cause and it seemed more likely to arise after abdominal operations. Anders gave 1 in 3000 cases of ether administrations, but Dr. Drummond thought the disease was more frequent than this.

Dr. PARSONS (Dublin) read a paper on Some Remarkable cases of Obstruction of the Vena Cava and the other large Systemic Veins, illustrated by excellent lantern slides.

Dr. WILLIAM EWART (London) read a paper on the Treatment of Renal Diseases by means of massage and bandaging, careful diet, and medicine directed to supporting the heart.

Dr. J. STRACHAN (Dollar) read a paper on the Alcoholic Neurosis.

SURGERY.

THURSDAY, JULY 28TH.

Dr. DAVID NEWMAN (Glasgow) opened a discussion on

The Origin, Effects, and Treatment of Septic Infection of the Urinary Tract.

He commenced by saying that the subject was a very large one and therefore he intended to confine his remarks to the kidney. There are many conditions in the kidney, such as tuberculosis, which are not in themselves suppurative, but which suppurate later from pyogenic infection. These were not to be considered, but he would speak only of the conditions of the kidney which were strictly septic. The septic state of the kidney may arise through the blood-stream, "purulent embolic nephritis," or by the lymph-stream, "purulent interstitial nephritis," or there may be an "acute septic nephritis without suppuration." Here, again, the infection is through the lymph or the infection may come by the ureter and may cause a pyelitis or a pyelo-nephritis. The body has great power of resistance against infection and this is very noticeable in the bladder, and mere retention of urine or mere injection into the bladder of a "culture" will not cause cystitis, but if the two occur together then cystitis may result. The peculiar distribution of the lymphatics in the walls of the bladder, ureter, and kidney render it easy for septic infection to spread from the bladder to the kidney without the occurrence of any sepsis in the ureter itself. The chief point in treatment is prophylaxis, for we can do much more to prevent sepsis of the kidney than we can do to cure it.

Dr. T. ROVSING (Copenhagen) stated that there are two groups of bacteria which affect the urinary tract: (*a*) those which decompose the urea—namely, staphylococcus pyogenes aureus, staphylococcus pyogenes albus, proteus Hauser, and diplococci and bacilli, some of which are pyogenic and others not; and (*b*) those which do not decompose the urea, such as bacillus coli. In cases of bacteruria, in which the urine may swarm with bacteria and yet no cystitis be present, the microbe which predominates is the bacillus coli and the urine is acid, but in cases in which cystitis is present we have almost always to do with microbes which can decompose urea, such as the staphylococcus aureus. In cases of cystitis, in which both bacilli coli and urea decomposing microbes are present, treatment with nitrate of silver will cure the cystitis and the urea decomposing microbes will disappear, but the bacilli coli will remain. The importance and frequency of the bacilli coli have been over-estimated chiefly because by rapid growth they may hide the real pathogenic microbes. As to treatment, prevention is of the chief importance, and as it is impossible to sterilise the urethra the microbes which are necessarily introduced with every instrument must be killed and that is best done by injection of 50 c.c. of a 2 per cent. solution of nitrate of silver after every operation.

Mr. MANSELL MOULLIN (London) pointed out that males were less easily affected than females by sepsis from the exterior, but that they were also less easily treated. Rigors after any urethral or vesical operation were always a sign of absorption of bacterial toxins. He was inclined to ascribe much greater importance to the bacillus coli than did Dr. Rovsing.

Dr. M. MELCHIOR'S (Copenhagen) contribution to the discussion was a report on 50 cases of Septic Infection of the Urinary Tract with Bacteriological Examination. He considered that bacillus coli was by far the most frequent microbe in cystitis. In most cases it was introduced by means of instruments; all the five patients who had had no instrument passed were women. He was of opinion that the bacillus coli was also the most frequent cause of pyelitis and suppurative nephritis.

Mr. BRUCE CLARK (London) laid it down as essential that the mucous membrane of the urinary tract must be abraded or otherwise impaired before any micro-organism could set up an inflammation. He was inclined to think that in most cases cocci were the first to appear and that these were replaced in time by bacilli coli, and he quoted some experiments by Dr. Klein which showed that in a series of inoculation cases of peritonitis the bacilli prodigiosi of the first experiment was replaced by bacilli coli in the later. He considered that the marked and permanent contraction of the bladder which was found in cases of prostatitis was due to a streptococcic infection of the bladder wall with consequent formation of fibrous tissue.

Mr. W. H. BATTLE (London) related the particulars of three cases of infection of the urinary tract in which a remarkable enlargement of one or both kidneys took place, evidently due to septic infection, and yet, though no operation was done on the kidney itself, the enlargement gradually disappeared and the patients recovered.

Dr. NICOLL (Glasgow) had recently made a large number of very careful bacteriological examinations and cultures in cases of urinary infection, and up to the present no definite and trustworthy results had been obtained. An important point had been discovered, and that was that acid, neutral, and alkaline media had to be employed before any statement could be made as to the micro-organisms present. He was inclined to think that no known method existed of distinguishing the gonococcus from other forms.

Dr. D. MACEWAN (Dundee) said that it was most important in women to render aseptic the meatus urinarius before introducing any instrument. In all cases in which urinary sepsis was present regular and complete evacuation of the bladder was most important. Boric acid, the benzoates, salol, and methylene blue might be given by the mouth, and locally boric acid, nitrate of silver, and perchloride of mercury were the best antiseptics.

Professor KOCHER (Berne) was inclined to attribute more importance to the bacillus coli than Dr. Rovsing would allow.

Sir WILLIAM STOKES (Dublin) read a paper on a case of Exophthalmic Goitre Treated by Thyroidectomy. He had removed a portion of the enlarged thyroid gland in a case of marked Graves's disease and the result had been a complete recovery; the dyspnœa, palpitation, and exophthalmos had all disappeared. He then discussed the pathology of the disease and showed that the "toxin" theory was the only one admissible.

Professor KOCHER (Berne) complimented Sir William Stokes on the result of his case and remarked that the results were not always so good; he had operated on about 50 cases of exophthalmic goitre. He advised complete excision of one lobe and of half or two-thirds of the other. He spoke strongly against using either ether or chloroform in thyroidectomy and urged that only cocaine should be used.

Dr. L. CASPAR (Berlin) read a paper on Catheterism of the Ureters in Both Sexes. He thought that with care there was very little risk of injury, but that there was some risk of infection. He said that it should only be used in diagnosis or treatment when the ordinary measures failed.

Mr. EDMUND OWEN (London) read a paper on the Treatment of Cleft Palate. He pointed out the importance of making the mouth as aseptic as possible and advised that if the tonsils were enlarged or adenoids were present these should be treated at least ten days before the operation on the palate. A modified Smith's gag was exhibited and he recommended the position with the head hanging over the end of the table as the best; he preferred to have the child only slightly under the influence of the anæsthetic.

Dr. M. MELCHIOR (Copenhagen) operated on a girl, aged sixteen years, for a large sarcomatous growth at the back of the neck; it was found impossible to remove it, but by repeated electrolysis at a later date the whole of the growth sloughed away and no return had taken place though the operation was performed three years ago. 500 milliampères for five minutes was the best method and of course the patient was anæsthetised.

Mr. STANLEY BOYD (London) doubted the value of the method unless it possessed a selective power over the malignant growth; this was perhaps the case.

Mr. A. NEVE (Kashmir) pointed out that in India the death-rate from chloroform was only about 1 in 8000 at the most and in one collection of 100,000 cases no death had occurred. This he attributed chiefly to the high temperature in India and he especially urged the importance of not piling on chloroform during struggling. At his suggestion the Section passed a resolution asking the Indian Government to publish yearly the statistics of cases of administration of chloroform and the deaths therefrom.

Mr. C. YELVERTON PEARSON (Cork) read the notes of a case of a Large Spina Bifida (Meningomyelocele) which he had treated successfully by the open method. The improvement in the paralysis which had been present was marked. A point of importance in the operation was that the head must be low.

In the afternoon Mr. MITCHELL BANKS gave a lantern demonstration on Surgery, Ancient and Modern.

OBSTETRICS AND DISEASES OF WOMEN.

WEDNESDAY, JULY 27TH.

Dr. CULLINGWORTH opened a discussion on

The Surgical Treatment of Pelvic Inflammation.

Referring to his address in Obstetrics and Gynæcology at the meeting of the Association held in Newcastle in 1893 Dr. Cullingworth considered that it was no longer necessary to adduce arguments in favour of a method of treatment which, although for a time vigorously opposed, has now been generally accepted. The following points having been selected for discussion debate could be confined within useful and manageable limits—viz., (1) the indications for operative interference in pelvic inflammation; and (2) the choice of time for operation. 1. Adopting the usual classification of pelvic inflammation into pelvic cellulitis and pelvic peritonitis the former class of cases is first dealt with. In pelvic cellulitis when the inflammation is unattended with suppuration no operative interference is necessary. When an abscess is formed the ordinary rule of surgery should be followed and the pus let out as soon as it is discovered and is within reach. The opening of a cellulitic abscess should always be performed without opening the peritoneal cavity. These abscesses in the great majority of cases point on the external surface of the body. More rarely they point in the vagina. Sometimes they are formed at the back of the pelvis beneath the posterior parietal peritoneum. In that case the pus does not easily make its way to a surface and is apt to burrow. It thus may become necessary, even when the presence of pus is as yet only a matter of inference, to dissect down in the direction in which the supposed abscess is situated, commencing with an incision similar to that employed in the operation for tying the external iliac artery and carrying on the dissection from without inwards along the floor of the iliac fossa, lifting up the reflexion of peritoneum and dissecting beneath it. Circumscribed abscesses limited to the upper part of the broad ligament must be of extreme rarity, if they exist at all. Most of the cases so described have probably been examples of pyosalpinx or suppurating ovary in which the broad ligament has been drawn over the inflamed organs in the form of a hood. The indications in pelvic peritonitis cannot be stated so categorically. The personal experience of Dr. Cullingworth has led him to regard the following signs and symptoms as being strongly suggestive of the need for operative interference. (*a*) The presence of a definite, more or less fixed, irregular swelling in one or both posterior fossæ of the pelvis, larger in size than would be accounted for by the matting together of a merely thickened tube and a normal or slightly œdematous ovary, and accompanied with pain and fever. If such a swelling is found to be increasing in size in spite of rest and the local application of warmth the suspicion that pus is present in appreciable and dangerous quantity almost gives way to certainty. (*b*) The occurrence during an attack of acute inflammation of the uterine appendages of a tense globular cystic swelling in the pouch of Douglas. Whether this proves to be an intra-peritoneal abscess or a tense encysted collection of serum the indications for surgical relief are equally positive. (*c*) The outbreak of recurrent attacks of pelvic peritonitis in a patient known to have had an acute salpingitis, in whom there has remained a quiescent but obvious swelling in the posterior part of the pelvis. In such cases there is generally a pyosalpinx or an ovarian abscess. (*d*) The sudden appearance of symptoms of general septic infection in a patient with a more or less definite history of pelvic inflammation and a localised swelling above the vaginal roof. Such cases urgently need surgical intervention. They will often be found to be examples of tubo-ovarian abscess. The above are instances of suppurative inflammation of the appendages. In cases of non-suppurative inflammation gradual recovery may usually be expected to take place without operation. But operative interference is indicated even here if there is reason to suspect complications such as incipient cystic disease of the ovary, or if the circumstances of the patient being such as to render it highly important that she should be restored to health quickly, and the alternatives having been frankly explained to her, she should decide in favour of operation. 2. With regard to the choice of time for operation it is no doubt wise, in the majority of cases, to defer operation until acute symptoms of localised peritonitis have subsided. This has been adopted as a general rule of practice in the surgery of the appendix vermiformis and is equally applicable in the surgery of inflamed uterine appendages. Exceptions to this rule frequently occur, as, for example, where a rapidly increasing elastic swelling in Douglas's pouch or in the lower part of the abdomen indicates acute suppuration and again where the symptoms point to septic absorption.

Dr. E. DOYEN (Paris) laid down the following rules as a guide to intervention in the different varieties of pelvic suppuration. First (extra-peritoneal suppuration), phlegmon of the broad ligament: (*a*) by iliac evolution—classical iliac incision; (*b*) abscess of the inferior portion of the broad ligament—lateral colpotomy. Secondly (intra-peritoneal suppuration): (*a*) the inflammatory mass remains intra-pelvic and does not reach the brim—vaginal operation; (*b*) the suppurating tumours pass the brim of the pelvis and reach the level of the umbilicus—laparotomy. By each one of the above methods, vaginal or abdominal, three distinct operations may be performed: (1) simple incision of the purulent focus; (2) ablation of the annexa, leaving the uterus; and (3) total castration.

Dr. JACOBS (Brussels) made some observations based on an experience of 713 operations. In cases of bilateral disease of the appendages he thought that the vaginal route should be chosen in cases of old-standing pelvic suppuration, with fistula adhesions, peri-uterine abscess, &c., whilst the abdominal way was preferable in relatively recent cases in which there was no evidence of injury to surrounding organs. Operating on these lines he had had the following results:—vaginal route—432 cases, 424 cures, and 8 deaths; abdominal route—98 cases, 95 cures, and 3 deaths. Although all suppurative inflammations were of infectious origin it was seldom that the pus was very virulent at the time of operation and it was of less virulence in proportion as the case was of longer standing.

Dr. LANDAU (Berlin) contributed to the discussion a paper on

Vaginal Cœliotomy

based on 58 cases operated on during the last three and a half years. All the patients recovered. He concluded from his experience that those patients who were operated upon by vaginal cœliotomy for true, genuine—not inflammatory—tumours and for extra-uterine pregnancy without severe inflammatory symptoms had been permanently cured. On the other hand, of the patients in whom inflammatory conditions led to the operation only 20 per cent. at best had been cured. This was generally due to the operation being performed when the indications were against it and in most cases the vaginal radical operation should have been performed. As regards the choice between the vaginal and abdominal route there was much in favour of the former. He dwelt briefly on the technique involved, but for full particulars he referred his hearers to the translation, by Dr. Eastman and Dr. Arthur Giles, of "The History and Technique of the Vaginal Radical Operation." The points he further discussed were: (1) when is the anterior or the posterior incision to be chosen? when the combination of both? (2) which anterior section is better, the longitudinal or the transverse? (3) how is the uterus to be luxated? (4) shall and must the peritoneum be specially closed? and (5) shall the uterus after vaginal cœliotomy be fixed to the vagina or not? He could not advocate the extirpation of inflamed adnexa, unilateral or bilateral, by means of vaginal cœliotomy; even if the operation were

successful the majority of cases were not benefited. When performed for certain precise and clearly-defined indications vaginal cœliotomy gave excellent results but on account of its relatively small danger it had a tendency to be overdone.

Professor FEHLING (Halle) agreed with Dr. Cullingworth that they had to separate pelvic suppurations into those arising in the parametrium and pelvic peritoneum and those of the adnexa. In many cases of tubal suppuration the history and temperature gave no indication of the presence of pus, yet it was found on operation. As to the vaginal or abdominal route he agreed with Dr. Doyen that there was no fixed rule; every case must be dealt with on its merits. When the diagnosis was uncertain and when the disease was unilateral he preferred the abdominal route.

Dr. A. MARTIN (Berlin) said that, like Dr. Cullingworth, he laid great stress on the anamnesis, for in cases of gonorrhœa an expectant treatment was indicated, since in many instances such patients recovered without operation; but in septic cases operation was almost always required; and, indeed, these were the cases in which an operation might have to be performed even while an acute feverish condition was present. A difficulty often arose in the differentiation of these cases from extra-uterine gestation; often this was the condition found when gonococci or streptococci had been thought to be the cause of the illness. There was a cause of pelvic inflammation which had not obtained sufficient recognition, viz., the presence of the bacillus coli. This was responsible for many cases in quite young women; and the onset of menstruation not infrequently marked the commencement of the pelvic trouble, whilst a few years later definite swellings were found, and then, on operation, adhesions were generally present uniting the appendages to the intestines. In his earlier cases he sometimes regretted not having taken away the uterus as well as the appendages, but experience had taught him that in the long run those patients were generally the best off in whom the uterus was left.

Dr. MACAN (Dublin) thought that the two special points raised by Dr. Cullingworth had been rather lost sight of. The indications for operation depended almost entirely on accuracy of diagnosis, and this again on the knowledge of the bimanual examination. To carry this out properly the patient should be examined in the dorsal position, the right hand being used for the right side and the left hand for the left side. As to the time of operation, he would put this off as long as possible so as to get all possible advantage from the efforts of nature. He thought that when the vaginal route was employed for operation an estimation of the difficulties to be met with was much greater than by the abdominal method, since in the former the sense of touch had to be almost exclusively relied on.

Professor BYERS (Belfast) said that many points yet required to be cleared up. The greater one's experience the fewer no doubt were one's mistakes in diagnosis, but they all came across cases where it was impossible to determine before operation the *locale* of the pus. As to the method to be employed they had had the advantage of hearing the views of French and German experts; perhaps they in the British islands were apt to be too conservative in keeping to the abdominal route and there were cases better managed by a vaginal incision, as a palliative measure or as a means of tiding a very exhausted patient over a time until her strength was equal to an abdominal operation. What they wanted was more explicit information as to the indications for the respective methods.

Dr. HEYWOOD SMITH (London) related a case illustrating the two points on which Dr. Cullingworth had mainly dwelt. He thought the term "laparotomy" was philologically incorrect and scientifically misleading and ought to be replaced by the more correct term "cœliotomy."

Dr. WARD COUSINS (Portsmouth) observed that the various forms of pelvic inflammation ran so much into one another that a correct diagnosis of these complex disorders could seldom be made in the early stages, but all of them could be traced to some infective process. Many got well with very simple treatment, whilst in acute cases of suppuration the dangerous stage might often be relieved by simple incision and careful drainage. The position of the incision must be determined by the special features of each case. When distinct swellings were found and the organs were clearly diseased he thought the abdominal route was generally the best for dealing properly with them.

Dr. TAYLOR YOUNG (Sydney) agreed with Dr. Macan that British gynæcologists often handicapped themselves in making a diagnosis by adhering to the lateral method of examination. Removal of the uterus should be practised only in cases of bilateral suppuration and destruction of the adnexa. In the others simple incision might first be tried, as even if unsuccessful it would not interfere with future operation. But conservatism was not to be carried too far; a partially destroyed uterus was of no use after both the adnexa had been removed. The question to keep in mind was the patient's ultimate condition and from this point of view he thought the best results were obtained by the vaginal route.

Dr. LAPTHORNE SMITH (Montreal) endorsed the remarks of Dr. Cullingworth as to the immunity which the peritoneum acquired after one or more attacks of pelvic peritonitis. His experience was that these cases had a much smaller death-rate than those operated upon during a first attack. As to the route to be employed he had come to the conclusion that the abdominal plan was the best for all cases of large tumours of any kind, for pus tubes, hydrosalpinx, tubo-ovarian abscess, and tubal pregnancy; he would, on the contrary, employ the vaginal route for growths and collections situated low down in the pelvis. The advantages of the vaginal route were inestimable—no scar, no bugbear of hernia, and no buried sutures, while the mortality was almost *nil*. He was strongly in favour of removing the uterus when the tubes were full of pus and both ovaries had to be removed. This should usually be done through the abdomen and Trendelenburg's position was of great value.

Dr. AMAND ROUTH (London) agreed with Dr. Cullingworth that cases of perimetritis should not usually be dealt with during the acute stage, but this was not the case with puerperal septic parametritic abscess, which should be opened and drained through the vagina as soon as pus was suspected, and not be allowed to drift on till pus pointed above Poupart's ligament, as it only did in neglected or long standing cases.

Dr. HANDFIELD-JONES (London) agreed with Dr. Cullingworth that (1) large size of the pelvic tumour, and (2) recurrence of pelvic inflammation were the principal indications in deciding in favour of operation. In making a diagnosis it was most important to examine under full anæsthesia, since in cases of pus collections high up and situated posteriorly it was often impossible to map out the mass with certainty until the muscular parietes were fully relaxed. There could be no doubt as to the wisdom of waiting to operate until the acute symptoms had subsided. He failed to see the antagonism between the vaginal and abdominal methods: both were useful and suitable under different conditions.

Dr. AUST LAWRENCE (Bristol) remarked that when the vaginal swelling was most marked it was often wise to aspirate through the vagina, as some cases got well by this means even when no pus was found.

Dr. E. T. DAVIES (Liverpool) said that as to the route of operation the abdominal was generally the safer, as hæmorrhage and adhesions were more under control. Delay till the acute stage was often wise, but it was possible to delay too long, for if dense adhesions formed they made a subsequent operation much more difficult. The use of the aspirator as a means of diagnosis was a dangerous procedure and should never be employed unless immediately followed by operation.

After a few remarks by the PRESIDENT Dr. CULLINGWORTH replied.

Dr. F. J. MCCANN (London) read a paper on Clamp and Ligature in Vaginal Hysterectomy for Malignant Disease, which was discussed by Dr. HEYWOOD SMITH, Dr. E. T. DAVIES, and the PRESIDENT.

THURSDAY, JULY 28TH.

The second day's session was opened by a discussion on

The Use and Abuse of the Midwifery Forceps,

introduced by Dr. MILNE MURRAY (Edinburgh), who said that the selection of this subject arose out of the able address of Dr. Japp Sinclair at the Montreal meeting. He began by asking: "What is the special value of the forceps as a surgical instrument?" and his reply to this was that it enabled them to shorten the suffering and diminish the risk of childbirth. As to the indications for its use he considered that this was found whenever and only whenever they were assured that the danger of interference had become less than that of leaving the patient alone; this, of course, implied that the use of the forceps was in practically every case a matter of individual judgment and definite rules could not be laid down. A fœtal head and an ovarian

tumour could not be dealt with on the same lines. It was good practice to remove the latter as soon as it was detected, but the mere presence of a fœtal head in the pelvic cavity was not an adequate reason for its summary removal. It was on these grounds that a certain number of instances of improper use or abuse of forceps were due to errors of judgment; the instrument was employed when it should be left alone or else it was not used in cases where it was indicated. In addition, a large part of what might properly be called the abuse of forceps was due to faulty technique. He would sum up the matter thus: (*a*) the forceps were often used at the wrong times; (*b*) they were sometimes not used at the right times; and (*c*) they were often badly used at both times. The dangers of the forceps operation apart from the risk of septic infection (which was common to most operations) might be summarised thus:—1. The mother's parts might be bruised, lacerated, or otherwise injured by mechanical violence. 2. The too sudden emptying of the uterus might be followed by imperfect retraction and consequently dangerous hæmorrhage. 3. The fœtal head might be unduly compressed, lacerated, or otherwise damaged. He had met with an objection to the use of forceps due to the fact that there seemed to be a lingering doubt in the minds of some whether the abolition of the pain and suffering of labour would be an unmixed blessing. This seemed to be a survival of the same barbarous instinct which prompted the so-called religious objection to the use of chloroform in labour and was as unworthy of respect. For his part he had no such scruple and were he able to do so with safety he would gladly abolish every pain after the first and reduce the duration of labour to a bare minimum. As to the application of forceps at the wrong time, he wished specially to protest against their use before the os was dilated except under quite exceptional circumstances. Sometimes the fact that the os was not yet dilated properly was not recognised, owing to an examination being made in the absence of a pain, and if then the forceps were applied and a contraction came on the os might be found spasmodically contracted round the head and forceps, and if traction were persevered in disastrous results might follow. As an example of the harm which might result from not applying the forceps when they were required he mentioned an injury once common enough and now rarely seen—viz., vesico-vaginal fistula; but, short of this, an undue amount of maternal bruising and other damage might result from carrying to an extreme the reasonable reaction which had shown itself in many schools against the too frequent use of the forceps. In this connexion he mentioned the fact that in the Rotunda Hospital report for 1896–97 there was a record of 56 cases, in 45 of which the indication given was "delay in the second stage of over four hours." He thought it was a mistake that the element of time should be a primary determining factor. He saw nothing to be gained but much to be lost in waiting a minute after he was certain that progress was at an end, and the danger of interference was less than the danger of waiting. There was no wiser obstetric aphorism than the one: "Wait till you see what nature can effect, not what she can endure." If he were asked when he would apply forceps he would reply in the words of their distinguished President: "When the passages are in a fit state and nature fails to advance the head, then I should apply forceps." He directed attention to a class of case in which he thought the forceps might be used with greater discrimination than was commonly the case—viz., in occipito-posterior presentations of the vertex. His own view was that when flexion was deficient, as shown by the ease with which the bregma could be reached, the sooner the forceps was applied after the os was dilated the better. The forceps were sometimes abused by being badly used, and among these faults of technique he included the failure to use the most efficient instrument. The most efficient instrument was undoubtedly the one constructed on the principle first laid down by the late Professor Tarnier of axis traction. He thought a man who had used this would be as likely to revert to the old instrument as a man would be to give up a cycle of 1898 for a "bone-shaker" of the early seventies. To object to the axis-traction that it was complicated was an argument with which he had little patience. That a couple of rods and a handle-bar should present a serious difficulty to the acceptance of an immensely more efficient instrument was an argument scarcely worthy of a grown man; to hear it soberly raised as an objection made him wonder whether obstetrics had fallen into the hands of hemiplegics or general paralytics. He pointed out the advantage of the axis-traction forceps in procuring rotation and combated the view that it unduly compressed the fœtal head, while as to removing the forceps when the head had reached the perineum, he would as soon think of leaving the patient in the third stage of labour as of removing the forceps before complete delivery of the head. He maintained that by means of the forceps they were able to avoid laceration of the pelvic floor in cases where this would unavoidably occur if left to nature. As to the mode of applying the forceps to the child's head, he thought this should always be done so that the blades grasped the biparietal diameter of the head wherever situated. Extensive damage to the lower part of the vaginal canal, especially internal laceration of the perineum, was often caused by oblique position of the head or of the forceps at the outlet. The application of the forceps to the side of the head might require more care than the other methods, but they were there to take what care was necessary for the benefit of the patient. Lastly, to protect the perineum traction should be made in the intervals of the pains, under fairly deep anæsthesia, and using the left hand to control the uterine retraction. He never under any circumstances "supported the perineum."

Dr. W. S. PLAYFAIR (London) said that the day's discussion was the direct result of the address by the President of the Obstetrical Section at the Montreal meeting, and for his part he must take exception to the main thesis laid down by Professor Japp Sinclair that "gynæcology had become so largely developed as the direct result of surgical intervention in midwifery; the obstetrician provided material for the gynæcologist." Much of the development of gynæcology was due to abdominal surgery and this could have no relation at all to obstetrics. The bad results which were seen after the use of forceps were mainly due, not to the use of forceps *per se*, but to their faulty use. The forceps were rather to be regarded as a most beneficent instrument; it was the want of this which caused so much injury and loss of life in former times and it required the object lesson of the death of the Princess Charlotte to convince the profession that the prevailing practice was wrong. The forceps had obviated many cases of vesico-vaginal fistula—a complication hardly seen nowadays—and it had enormously lessened the use of the craniotomy forceps.

Dr. SMYLY (Dublin) observed that a point to be borne in mind was that whereas the forceps might at one stage be unsuccessful and the perforator might seem necessary, on waiting for time for a certain amount of moulding to occur it was sometimes possible to deliver easily by forceps. On the other hand, too long delay was inadvisable for this among other reasons, that if delay has been allowed till the patient's condition is grave delivery must be hastened. If it be done earlier proper care can be taken. Safety in the use of forceps lay in adhering as closely as possible to their employment under favourable circumstances—that is, where the head presented and had passed the brim by its greatest diameter, the os fully dilated or dilatable, and the membranes ruptured. When less favourable conditions were present the indications must be more definite, such as danger to mother or child, but under the conditions indicated they were often employed merely to save suffering.

Professor FEHLING (Halle) said he must confess that he was of those who preferred the old forceps, and he felt that they were often used too much; the tendency among students especially was to use the forceps in many cases where the proper treatment was to wait. He quite agreed with Dr. Milne Murray's rule that the forceps were to be used in those cases where the danger of using them was less than the danger of waiting. He believed much improvement would result from the teaching of the use of forceps by means of better phantoms than they possessed at present. He concluded by giving statistics of the use of forceps in his own clinic at Halle.

Sir WILLIAM PRIESTLEY (London) contended for a moderate and reasonable use of the forceps; he agreed with Dr. Smyly that in many cases waiting for a short time would allow the head to be moulded sufficiently for delivery to be accomplished either naturally or with ease by the forceps.

Professor STEPHENSON (Aberdeen) said that use and abuse must be taken together and the second term made to limit that intended to be included in the first. He could not accept the rule adopted by some that instrumental aid was to be used only when there were symptoms of danger to mother or child. It was the old cry: "Wait till nature begins to fail." The true principle was to aid whenever they

could without deranging the mechanism so as to avert symptoms of danger. But Dr. Milne Murray had fully vindicated the present frequent use of the forceps against the fallacies and strictures of those who would have them return to the custom of a hundred years ago.

Dr. MACAN (Dublin), referring to Dr. Milne Murray's direction that the forceps should be applied when the danger of delay was greater than the danger of delivery by the forceps, said that this seemed quite simple and at once gained assent. But when they tried to translate this into practice they found that it required great skill and experience to know when the danger of the operation was less than the danger of delay. He therefore always impressed on his students that the chief danger of delay lay in the want of antiseptics. Personally he considered that the greatest triumphs of the forceps were the cases which required least traction. If the force of resistance were the least greater than the driving force there could be no progress and here the slightest traction with the forceps would effect delivery. He could not agree that the forceps should not be applied till after the greatest diameter of the head had passed the brim, for it was when the head was fixed there that the indications for delivery were most urgent.

Dr. MUNRO KERR (Glasgow) said that it was the general teaching that the forceps should be applied without reference to the diameter of the child's head and he considered this to be very bad teaching because it involved a lack of exactness. If the head were high it was more difficult to grasp the head high, but it could be done with care; the more transversely the head was seized the better, especially in cases of contracted pelvis, because a slight departure from such a grasp readily resulted in injury to both mother and child.

Professor BYERS (Belfast) agreed with the dictum, "Wait until you can see what nature can effect; don't interfere until she fails"; but there were other cases in which no danger threatened and in which, other conditions being favourable, the use of the forceps was nevertheless justifiable. He was in accord with those who said that full dilatation of the os was necessary before using forceps; but an exception was to be made for certain cases of eclampsia and sometimes in the case of aged primiparæ. As to forceps at the brim, he preferred their use to turning in flat pelvis. When the head had been brought down to the perineum he preferred to complete delivery before removing the forceps.

Professor JAPP SINCLAIR (Manchester) expressed modified approval of the axis-traction forceps, but could not imagine a time when the ordinary long forceps would be discarded in favour of the axis-traction instrument. His address at Montreal had been misunderstood to some extent; he reiterated his statements that the use of the forceps was excessive and that the teaching of midwifery was inadequate. There was at least sufficient ground for reconsidering their positions.

Dr. ROBERT JARDINE (Glasgow) spoke of the use of the forceps in contracted pelvis. They had many cases in Glasgow and he believed that the forceps gave better results than turning. He had delivered 8½ lb. children alive through a true conjugate of 3 in. He wished to emphasise the danger of turning after axis-traction had failed; the result was not to save the child but sometimes to rupture the uterus. Craniotomy was then the proper procedure. Theoretically transverse grasp of the child's head was right, but practically it was often impossible.

Dr. HANDFIELD-JONES (London) thought it was unwise to teach students that the forceps must always be applied in the transverse diameter of the child's head; in attempting such an application it was often very difficult to lock the blades and much harm might be done by rough efforts in this direction. He was strongly in favour of axis-traction forceps and related cases to show their value.

Dr. SLOAN (Glasgow) observed that the old Sir James Simpson forceps were axis-traction forceps; the tractors were the man. In the so-called axis-traction forceps of modern days the tractors were there, but the man might not be. As to their use at the outlet of the pelvis, it seemed to him to pass the wit of man to know what service they could be there.

Dr. LAPTHORN SMITH (Montreal) said that nearly all day in his practice he was busy repairing injuries caused by the too early use of forceps or he was taking down the histories of women who had been injured by them. He saw tears of the cervix up to the internal os and tears of the perineum into the rectum caused by hurry on the medical attendant's part, perhaps because he had another case on hand or because some old gossip had remarked that some other patient was confined in two hours. His remarks applied to perfectly normal cases.

Dr. BRASSEY BRIERLEY (Manchester) said he was glad to hear Professor Sinclair apologise for the remarkable and misleading statements made at the Montreal meeting. He thought that the fault of the improper use of forceps was due to the way in which men learnt their midwifery; in Manchester they were mostly taught by old midwives. He maintained that practical midwifery should be taught efficiently by qualified men and women in hospital or district practice.

Dr. JOHN MOIR (Edinburgh) thought that the practice of the present day was not quite so successful as in the days when he was a student. He maintained that the secret of success was to keep a steady watch on the condition of the cervix, pushing it up when it seemed likely to become jammed down in front of the advancing head. If forceps were then required all danger of injury to the cervix was obviated. He earnestly advised that no interference should be resorted to as long as the case was progressing satisfactorily.

Mr. DRAPER (Huddersfield) endorsed the view expressed by Dr. Lapthorn Smith that it was very wrong to use the forceps merely to save the medical attendant's time; the delay allowable before applying the forceps in the second stage was not to be measured by hours but should depend on the condition of the patient. He also emphasised the importance of proper antiseptic precautions.

Dr. CONNEL (Peebles) confessed himself a convert to the axis-traction forceps; as a general practitioner, trained in the school of the elder Simpson, he could say that there was no comparison in the efficiency of the two instruments. The preservation of the perineum was among the not least important of their functions.

Dr. MORE MADDEN (Dublin) contributed to the discussion a short paper on the Use of the Midwifery Forceps and some Modifications in its Mechanism, after which Dr. MILNE MURRAY briefly replied.

Mrs. SCHARLIEB, M.D. (London), read a paper on a Case of Missed Labour which was verified by operation and by necropsy.

Dr. ROBERT JARDINE (Glasgow) contributed a paper on Aseptic Midwifery, with which the morning's session concluded.

STATE MEDICINE.

WEDNESDAY, JULY 27TH.

A discussion upon

The Pollution of Rivers and its Prevention

was opened by Dr. H. M'LEAN WILSON in the following words:—

There were, he said, five points which were offered for consideration—namely: (1) Who should administer the laws for the prevention of pollution of the rivers? (2) Are the present laws sufficient? (3) Is treatment of sewage on land to be required in all cases? (4) Should manufacturers' refuse be purified by the manufacturers themselves or by the sanitary authorities? (5) Should any standard of purity be adopted for effluents from sewage works or purified trade refuse? Probably all present agreed that the cause of the failure of the Rivers' Pollution Act of 1876 was the want of provision for proper administration. The sanitary authorities, to whom enforcement naturally belonged, were nearly all themselves offenders. The county councils created in 1888 in England and in 1889 in Scotland had the power of enforcing the Act committed to them. The county councils were naturally somewhat chary of dealing with pollution within the limits of county boroughs, and in Scotland other burghs within which the greater number of polluting manufacturing processes were usually carried on, and the county boroughs themselves have been chary of exercising their powers against individuals in their districts. The same Acts gave power, therefore, to the Local Government Board of England and to the Secretary for Scotland to constitute a joint committee representing all the administrative counties concerned in any river for the purpose of enforcing the Act of 1876. Such joint committees have been formed in three cases only—that of the

Ribble in Lancashire, where in 1891 a committee was formed representing the County Council of Lancaster and the four county boroughs of Blackburn, Burnley, Preston, and Wigan; that of the Mersey and Irwell, also in 1891, where the committee consists of members elected by the County Councils of Lancaster and Chester and the seven county boroughs of Manchester, Bolton, Bury, Oldham, Rochdale, Salford, and Stockport; and that of the West Riding in 1893, upon which were represented the County Council of the West Riding and the five county boroughs of Bradford, Halifax, Huddersfield, Leeds, and Sheffield. The foundation of the Water of Leith Commission in 1889 by special Act was on somewhat similar lines, but that body was armed with powers far in advance of those given to the joint committee. The formation of joint committees was a great advance, and may well be regarded as the key to the position. Some people advocate, with no little show of reason, that the preventive powers should be entrusted entirely to a central authority. 2. Are the present laws sufficient? The special rivers authorities have found the Act of 1876 faulty in many ways, and in 1892 the Mersey and Irwell Joint Committee, and in 1894 the West Riding Rivers Board applied to Parliament for further powers. In England there are two ancient bodies with special powers for dealing with river pollution—namely, the Thames and the Lee Conservancies, each armed with a special Act giving them powers very similar to the Lancashire and Yorkshire authority but having the additional power of carrying out actual works of conservancy and purification. The special Act of 1889 imposed upon the Water of Leith authorities the duty of carrying out the necessary purification works. Similar increased powers are being sought by the Middlesex County Council by a Bill now before Parliament. They ask to be empowered to improve the bed of a stream, to remove obstructions, to straighten the channel, to construct weirs, to regulate the discharge of compensating water, and to prevent the occurrence of any new pollution. A general Bill having a similar extension as its basis is also now before Parliament. From the foregoing it is clear that the Act of 1876 is generally found to be insufficient. The proposed Bill as it stands is weaker in some respects than either of the two special Acts on which it is founded. The points left undecided are the right of a manufacturer to discharge his trade refuse into a public sewer or of a sanitary authority to refuse to allow him so to discharge it, the prohibition of the sludging of mill dams, the power to remove obstructions to the stream, the absolute prohibition of any new pollution, and the proper supervision of the discharge of compensation water. It would be a great misfortune if the Bill were allowed to pass into law in its present state, as it would postpone indefinitely the solution of the whole question. 3. Is treatment of sewage on land required in all cases? It is not necessary to discuss this point where sewage is discharged into the sea or tidal waters, although even then solids should be removed. Land filtration is undoubtedly the best plan where sewage effluent has to be discharged into a stream—that is, where enough land of a suitable nature can be obtained for the purpose. Since the reports of the Rivers Commissioners unsuitable land is now less often laid out for sewage farms. The Massachusetts Board of Health plan of artificial treatment appears to offer a promise of satisfactory results. It is still uncertain, however, how any of these plans will affect trade pollution. Biological methods alone, it is generally admitted, can deal efficiently with sewage matter. While land is advisable, then, for sewage disposal, yet in special cases better results are likely to follow artificial filtration by biological methods. If a sufficiency of clean ground be secured round a surface well casing will be superfluous. The exceptional cases show the powerful effect soil-filtration has in removing impurities from water, so that villages which have from time immemorial obtained water from shallow wells have not actually gained a reputation for unhealthiness. 4. Should manufacturers' refuse be purified by the manufacturers themselves or by the sanitary authorities? In England the matter remains in doubt, but in Scotland it seems definitely settled by Section 110 of the Public Health Act of 1897. It is worthy of notice that the provisions of Section 116 do not include the preliminary treatment of trade refuse for the purpose of removing from it anything which would interfere with the treatment of combined sewage. Sections framed for that purpose have been inserted in a Wolverhampton Act of 1869, in a Bilston Act of 1896, and in a Bradford Act of 1897. It is not clear, however, and the fact that there are these private Acts of 1896 and 1897 renders it more doubtful, whether the proviso in Section 7 of the Rivers' Pollution Act enables an authority to compel a manufacturer to remove from his trade refuse any such injurious matters. 5. Should any standard of purity be adopted for effluents from sewage works or for purified trade refuse? If it were possible to have a fixed standard such as that recommended by the Royal Commission the labours of reformers would be easier. Such a standard would have to be regulated by chemical analysis alone. Throughout the discussion of these questions it must be borne in mind that the subject may be looked at from two different points of view. Sometimes the river to be purified is so offensive that the first aim of the reformer is to end the nuisance. Some rivers are used for drinking-supply and their purity requires to be jealously guarded, and in regard to others the question of fish becomes one of importance. Our object, however, in all cases must be to put a stop to the gross abuse of the rivers now so common and to bring them back as nearly as possible to their natural state.

Professor GLAISTER (Glasgow) desired to consider the question with regard to Scottish rivers. In 1896 from inquiries made among medical officers of health and other sources he dealt exhaustively with the subject before the Philosophical Society of Glasgow. In that address (copies of which were distributed) he showed that the result of twenty years' experience of the Rivers' Pollution Act was absolutely negative and that the state of the rivers was no better to-day—if not, indeed, worse—than in 1868, when the Commissioners made their inquiry. It could be said without fear of contradiction that practically every river in Scotland was polluted in a degree varying from a small addition of sewage up to every conceivable kind of trade and organic and inorganic filth. The machinery available against that state of things lay in the Rivers Pollution Act of 1876; in certain sections of the Public Health (Scotland) Act of last year; in certain clauses of the Gasworks Act, of the Salmon Fisheries (Scotland) Act, 1862, and at common law. The direct Act is probably the least useful on account of its cumbrous, costly, and inefficient nature. Differences of opinion exist with regard to the value of a legislative impurity standard. No doubt much difficulty surrounded the application of one set of standards for all rivers, but Professor Glaister would be glad to revert to the standard laid down before the Commissioners—namely, "Whenever water was so affected by a town or manufacture as to become unfit for supporting the life of fish and of green plants the pollution, from whatever cause, should be considered as an unsupportable nuisance to the riparian population." If any permanent improvement was to be effected in Scottish rivers it could only be done by amended legislation, and he would suggest a resolution from the Section to that effect calling for amendment of the Act of 1876 in the direction of the Lancashire and Yorkshire amended Acts of 1892 and 1894.

Dr. G. REID (Stafford County Council) said that with regard to joint boards he thought local conditions should largely determine their formation. There were numerous overlapping local authorities with different interests—the county boroughs, for instance, who as a rule were the great sinners, might be able to defeat the efforts of other bodies, such as county councils, by combination. He suggested county councils as the more suitable central authorities, except possibly in special cases. As to constructing works of sewage disposal he thought that it would not be wise to entrust anything but supervisory powers to county councils. He concurred with Dr. Wilson that it was impossible to fix any standard of purity of effluents in face of varying local conditions. In the case of populations on large streams it might be perfectly reasonable to admit a less highly purified effluent than in the case of small streams.

Dr. BRUCE LOW (Local Government Board) approved, in England at any rate, of the formation of joint committees to take charge of a watershed. He had known good paper schemes wrecked by the jealousy of interested counties. The assistance of Parliament appeared to be needed to substitute a certain amount of compulsion for permissiveness in the formation of joint rivers boards to protect rivers from pollution.

Dr. J. C. MCVAIL (Stirlingshire) observed that medical men were best fitted to inspect factories and rivers. A good deal of expense was involved in the purification of rivers, but the time had long since passed away when folk thought there

was no need for such a proceeding. The county councils wanted the district councils to take the matter up and the larger area seemed preferable. The smaller the local authority the more likely the introduction of undesirable influences. The election for school boards was entirely distinct from other things, why should it not be so in health matters? The central authority must keep a firm hand and compel, if necessary, the carrying out of the present Act, which he regarded as exceedingly weak. For instance, it was an offence against the Act to allow solid matter to flow into the river, but solid matter in suspension is not allowed at all. Now, unless solid matter is in suspension it cannot flow at all, so that the reading is absurd. He did not agree with Professor Glaister that the Act had done no good; in fact, it had achieved a good deal. By inspection and meeting with owners, without going to law, much had been done. Knowing that the matter is engaging constant attention causes much to be done. One manufacturer did a great deal to abate a nuisance while another did little or nothing.

Dr. HILL (Birmingham) observed generally that the subject of pollution of rivers was varied by such complicating conditions as volume and variety of polluting material and became one of great difficulty. In such a town as Birmingham it was hopeless for any sanitary authority to expect to cleanse the small stream which carried off the sewage of three-quarters of a million of people. Then there was the refuse of many factories, not only of Birmingham, but also of other towns higher up the stream. Birmingham got some £25,000 out of its sewage-farm while it spent about £35,000 or more. Precipitation and suitable land were both requisite for the treatment of mixed or complex sewage. In the Thames they had the sewage of many towns mixed with a large volume of water, and under exposure to light, aeration, and other conditions it apparently underwent a process of self-purification, for the sewage-polluted water of the Thames was drunk with apparent impunity by the Londoners. The presence of fish appeared to be no test as to the fitness of water for drinking, for some fish lived and fed round the mouths of sewers, while oyster-beds improperly placed had been known to spread typhoid fever. Large towns situated on small streams could never hope to keep such streams sufficiently pure for drinking purposes; they must necessarily go for their supply—like Liverpool, Manchester, and Birmingham—to a water-shed uncontaminated by a population.

Dr. BOND (Gloucester Combined District) said with regard to the new process of septic tank filtration the results are too convincing to leave much room for doubt as to the wide applicability of the system. At Exeter, in a small space of the size of that lecture-room, the sewage of 1500 persons was treated and left the tank a clear and bright-looking water. Far more could be done under common than under statute law. In the former the judge acted under the influence of equity rather than of mere law and was usually in favour of the plaintiff. Legal proceedings, however, were costly and attacked the interests of manufacturers. Private persons therefore fought shy of embarking upon costly litigation to control pollution of rivers. We wanted to give aggrieved persons the opportunity of acting through public bodies by a procedure analogous to that known in England as proceeding by "information" through the Attorney-General, as the matter was one in which the public was interested and should pay the cost. Harassing prosecutions could be avoided by making the consent of the Attorney-General a necessary qualification. He asked the opinion of the meeting as to the desirability of the following motion:—

> That in view of the greater facilities for dealing with river pollution which are offered by action at common law than under existing statutes, it is desirable in the opinion of this Section that county councils and other river authorities should be empowered to proceed in this matter of common law whenever they may consider it desirable to do so, under such restrictions against undue exercise of this power as may appear advisable.

Sir HENRY LITTLEJOHN (Edinburgh) proposed the formation of a sub-committee to look into the matter and draw up a series of resolutions to lay before Friday's meeting and to include Dr. Bond's proposition among them.

Dr. HOPE (Liverpool) then read a paper upon

The Value of the Present Method of Estimating the Populations of the Great Towns in England.

The reasons for believing that the present estimate of the population of Liverpool is very much below what it actually is may be summarised in the following manner: (*a*) The natural increase of the population—namely, the increase in the number of births over deaths since the last census—exceeds 40,000; (*b*) the increase in the number of registered voters since the last census exceeds 26,000; (*c*) since the last census the number of inhabited houses in the city has been ascertained by special investigation to have increased by 14,448, and the number of houses which have been built in excess of those which have been demolished since the last census is close upon 2500. Each one of these considerations adds to the belief that the actual increase has been greater than the estimated increase. (*a*) sufficiently explains itself. With regard to (*b*) the number of inhabitants to a voter, taking the census average, is 6·9, but if only 6·5 be taken, and the increase in the number of voters be multiplied by this figure, it gives an addition to the population of 171,346, including the incorporated areas, which, added to the census population of the old city makes a total of 689,326. With regard to (*c*) the number of inhabitants to a house, taking the census estimate, is 5·6, and taking the occupied houses of the present extended city as a basis of estimate of the population it makes an addition of 80,908 since the last census and raises the total to 710,351. The mere addition of the births over deaths would raise the population to upwards of 670,000. These figures have reference to Liverpool as it now is, the estimate of the city being made as for one whole, but it will be remembered that an incorporation of Liverpool with its suburbs took place in 1895. If this incorporation had not taken place, and the city and suburbs had been dealt with by the Registrar-General separately, as would have been the case except for incorporation, the totals so obtained would have been greater by 23,000 than they are now. This shows one obvious fallacy of the method of estimation adopted. Assuming the underestimation of the population of the city to be about 50,000 the consequences, taken as a whole, are trifling. It merely causes relatively unimportant errors in the birth-rate and in the death-rate, making both of them too high; but the consequences in certain districts of the city of obvious errors in the estimate of the population are very grave. Vauxhall ward in Liverpool formerly was a notoriously unwholesome district, but for some years past great efforts have been made to ameliorate the conditions of the district, and yet, year by year, thanks to the gross errors in the population as estimated by the Registrar-General's method, the rate of mortality appears to be steadily going up. But erroneous estimates are no new thing: at the close of the last inter-censal period the Registrar-General's estimate of the population of the City of Liverpool showed an error of 100,000. With regard to London a quinquennial census is employed and the evidence that a quinquennial census is necessary is abundantly proved by the errors of estimate which arise even in five years, amounting in 1891 to no less than 241,000. Clearly what is wanted is a more frequent census for the whole country, certainly not less frequently than every five years. It is singular that the Registrar-General is satisfied, week after week and year after year, to publish, under the imprimatur of his office, figures which everyone conversant with the subject must hesitate to accept as correct. No doubt a quinquennial census would go far to correct these mistakes and tend not only to prevent the waste of time involved by the compilation and issue of fictitious returns, but also to put an end to the mischief which such returns give rise to. But, pending such a census, it is eminently unsatisfactory to find that the Registrar-General regards the subject as of so little importance as to decline to discuss it, preferring to leave the matter for his successor to deal with. Numerous tables were given to prove the various propositions advanced by the speaker.

Professor SALTET (Amsterdam) found the same difficulty attending the ten-year census in his own country. They had a register of changes of address which was not possessed in England. That register enabled them to make a more accurate estimate of the population.

Dr. SPOTTISWOODE CAMERON (Leeds) advocated the establishment of a quinquennial census which need not be of the same detail as that of the longer period. Sex and age statistics would be almost sufficient. Even an accurate estimate of the number of houses would effect much. A census should be taken in every place. Meanwhile, we should demand a quinquennial age and sex census throughout the country.

Dr. SYMONS (Bath) also drew attention to the necessity of having the details published for each district. The details were given of Plymouth Lighthouse population of 5 persons,

whereas details as to sex and age were not obtainable of 30,000 populations except by special application to the Registrar-General.

The PRESIDENT remarked that the time to obtain detailed particulars was while the returns were in the hands of the local authorities; a little outlay would then secure information regarding each alley and street.

PSYCHOLOGY.

WEDNESDAY, JULY 27TH.

After the Presidential address from Dr. CLOUSTON, which we published last week, a discussion was opened by Dr. JOHN SIBBALD, Senior Commissioner of Lunacy for Scotland, on

Suicide, its Social and Psychiatrical Aspects.

Dr. Sibbald's contribution to the debate was a paper dealing with the statistics of suicide as gleaned from the Government Bluebooks for England and Wales and for Scotland and he selected the figures bearing upon the alleged increase of suicide. According to the statistical returns the suicide rates per annum per million of population had risen during the past thirty years from 67 to 86 in England and from 40 to 54 in Scotland. The tendency to conceal the occurrence of death by suicide had diminished since insanity had become more recognised as a disease. He next referred to the statistics of the methods of suicide and considered that the most trustworthy were those of suicide by hanging; in the forms of death by firearms, drowning, &c., there was more difficulty in deciding whether the death was by suicide or by accident. In the cases of suicides by hanging the annual figures per million during the past 30 years were remarkably constant, being 25 for England and 16 for Scotland; they varied in particular localities in Scotland, but remained constant for each locality. In the forms of death by firearms, stabbing, cutting, poisoning, and drowning, in all of which it was more difficult than in the case of hanging to determine whether the death was by suicide or by accident, the total number of deaths in each form remained constant, but more of them were now attributed to suicide than to accident. For example, the total number of deaths by firearms was much the same to-day as 30 years ago, but more of them were registered as suicides and fewer of them as accidents; the rise in "suicides" was balanced by the fall in "accidents." Dr. Sibbald concluded that the increase in suicides by firearms, &c., was thus probably dependent on their mode of registration and was therefore apparent, not real. The constancy of the deaths by hanging, which were almost invariably suicidal, was a strong indication that suicides as a whole were not increasing as statistics apparently led one to believe.

Dr. A. HAIG (London) followed with a paper on the Causes of Suicide and limited his remarks entirely to

Suicide as the Result of Error in Diet.

His thesis was: mental depression and suicide are due to errors of circulation in the nerve centres, the errors of circulation are due to excessive uric acid in the system, the excessive uric acid is due to errors of diet. He referred to the daily, annual, and life fluctuations of uric acid, and maintained that the incidence of suicide tallied with the periods when uric acid was most abundant in the blood—namely, in the mornings, in spring and summer, and in childhood and in the full prime of life. Suicide was commoner in England than in Scotland because the English eat more meat and drink more beer, while the Scotch eat less meat and drink whisky instead of beer. Suicide increased with civilisation probably because of the more injurious diet. Suicide was commoner in men than in women probably because men were more exposed and ate more meat and because women excreted uric acid freely at each menstruation. Many drugs—e.g., cocaine—and tea and tobacco led to suicide because they interfered with the excretion of uric acid. Uric acid, in Dr. Haig's opinion, was thus the immediate cause of suicide and proceeded from errors in diet.

Professor MORSELLI (Genoa) had forwarded to the meeting a paper (in French) on

The Characteristics of Suicide by the Insane as compared with those of Suicide by the Sane.

The paper was translated and read to the members by Dr. JOHN MACPHERSON, one of the honorary secretaries. The characteristics of suicides by the insane were the painful methods used, the reiteration of the attempts, their sudden and impulsive nature, and the existence of heredity and precocity.

Dr. BLANDFORD (London) opened the discussion. He did not accept *in toto* Dr. Sibbald's explanation of the statistics of suicide and doubted that the reluctance to acknowledge suicide as a cause of death was diminishing. Contrarily to Dr. Haig he thought that if all attempts at suicide were registered as well as the actual suicides it would be found that women were as often suicidal as men.

Professor BENEDIKT (Vienna) was of opinion that many suicides might be prevented were we able to at once place under care and control members of the public as soon as they were recognised to be suicidal. He thought that misery and privation had not been sufficiently referred to as causes of suicide and he referred to suicide amongst women before marriage and during pregnancy.

Dr. YELLOWLEES (Glasgow) thought that misery as a cause of suicide was increasing.

Dr. MACDONALD (New York) said that in his country the recent legislation for the punishment of persons who attempted suicide had—through the agency of the press, which took a delight in recounting the details of the methods attempted—given an impetus to suicide.

Dr. URQUHART (Perth) said that he had tried the dietetic regimen suggested by Dr. Haig for melancholia but without success.

Dr. JOHN MACPHERSON (Stirling) considered that the uric acid diathesis was not so much a cause of insanity as a sign of degeneracy. Suicide was due either to a blind impulse to die, as in the degenerate, or to a conscious desire to escape pain.

Dr. MERCIER (London) was of opinion that suicide was due to an exaggeration and perversion of the instincts of reproduction and duty.

Dr. NICOLSON, Lord Chancellor's Visitor in Lunacy, thought that suicide was a question of the balance of motives in relation to one's environment or supposed environment.

Mr. HAYES NEWINGTON (Ticehurst) referred to suicide in children from spite or ill-temper.

Dr. J. F. SUTHERLAND, Deputy Commissioner in Lunacy for Scotland, thought that the misery of the people was not increasing and that possibly this was the reason why suicide was not increasing. He agreed with Dr. Haig's views and suggested that the greater number of suicides in England as compared with Scotland might be due to the institution of the coroner's inquest.

Dr. SIBBALD, in his reply, said in the case of a topic of discussion such as suicide general statistics were of much more value than individual experience.

Dr. HAIG, in his reply, said that degeneracy of the race, if it existed, was due to errors of diet.

Dr. J. F. SUTHERLAND read a paper on

The Insanities of Inebriety from the Legislative and Medico-Legal Standpoints,

in which he mentioned several clauses which it was very essential should be added to the Bill at present before the country in order that it should deal with the inebriate effectively.

Dr. G. R. WILSON thought that this meeting was a good opportunity to bring pressure upon the authorities. It was agreed that a recommendation be made to the Council to bring the desirable clauses before the authorities.

Dr. IRELAND, Dr. TEMPLEMAN, and Dr. YELLOWLEES also spoke.

Mr. C. A. BOIS and Dr. N. T. KERR of Hartwood Asylum contributed a paper on

Clinical Studies with Spleen and Thyroid Extract,

in which they described the actions which they had observed to occur in patients taking splenic extract—e.g., an increase in weight, some degree of poikilocytosis, diuresis, an increased action of the bowels, and sometimes mental excitement. Therapeutically splenic extract was most beneficial in adolescents, especially in stupor cases. It aids the action of thyroid and is most effectual in the form of capsules of liquid extract given half an hour before meals.

Dr. C. C. EASTERBROOK (Morningside Asylum) read a paper on

The Action of Thyroid and Parathyroid Extracts upon Metabolism in the Insane.

He first referred to the conflicting results of the removal of the thyroids and parathyroids and to the very diverse

views which had arisen therefrom. The idea occurred to him that light might be gained from the pharmacological side by the administration of parathyroid extracts which had never previously been exhibited in the human subject. The patients were kept at rest in bed and upon a fixed mixed diet in order to control metabolism. The external parathyroids of the ox were employed. They were at first administered by the mouth, both in the fresh form and after being dried in a sulphuric acid chamber, but in both cases with negative results. They were next given in the form of hypodermic injections of extracts in glycerine, in sulphuric ether, and in 10 per cent. sodium chloride solution, and in relatively enormous doses. No actions comparable to those of thyroid were produced, and the only effect observable was a slight rise in pulse-tension similar to that which follows the injection of many other organic extracts. Dr. Easterbrook next made some observations on the action of thyroid based upon an experience of nearly 100 cases of treatment amongst the insane. In nearly all the cases the drug was given in doses sufficient to produce thyroidism, and the phenomena observed proved indubitably that thyroid is a profound katabolic stimulant. With the patient at rest in bed and on a fixed mixed diet, there is a great increase in all the excreta, especially in the water and carbonic acid and to a less extent in the urea and other products of nitrogenous metabolism. Thyroid thus greatly accelerates the splitting up and oxidation of the tissues, the fats suffering most severely, the carbohydrates next, and the proteids least. The anabolic reaction which sets in after thyroid treatment is explainable on Hering's theory of the internal self-adjustment of bioplasm. The changes in the blood during thyroidism probably indicate that the drug is conveyed by the blood to the tissues, but the early prominence of nervous symptoms during large doses of thyroid, the signs of central nervous hyperactivity followed by those of exhaustion, and the early increase of the phosphoric acid in the urine (which is probably derived from the excessive oxidation of the "phosphorised constituents" or "azotised fats" of the grey matter) indicate that thyroid specifically stimulates the central nervous system and through it the metabolism of the tissues. Dr. Easterbrook finally drew attention to the similarity between the "tetanic" symptoms of parathyroidectomy, the acute "neurotic" symptoms of thyroidectomy, and the toxic phenomena of thyroidism. He suggested that the essential result of thyroidectomy was an artificial myxœdema and that the acute or "neurotic" effects of thyroidectomy were accidental and, like the symptoms of parathyroidectomy, might be accounted for (1) by the youth of the animal operated upon; (2) by the interference with the very full nervous connexions of the thyroid; and (3) by the wounding of the thyroid, in consequence of which the spilt colloid is more rapidly absorbed and so gives rise to symptoms of thyroidism.

THURSDAY, JULY 28TH.

Mr. WALTER BERNARD (Londonderry) read a paper on

Defective Children and the Early Training of the Mentally Afflicted.

He commenced by saying that in 1888 Conolly urged that the early recognition of the mentally abnormal in the child should give the impetus to remedial treatment. He (Mr. Bernard) had only studied the subject as an ordinary practitioner, but he was sure that much might be done if they only began early enough. He would not trespass on the time of the meeting, but submit his views in a few general propositions: (1) is not the first manifestation by an infant of mental deficiency capable of being met by such methods of correction, suggestion, and appeals to imitativeness that the pathological in the child may gradually be guided to the physiological? may not the adoption of domestic treatment begun early prove ameliorative and abidingly effective? (2) the special treatment of the separate faculties has not received enough attention from medical men; (3) medical councils and examining bodies ought to insist upon practitioners being educated in the earlier recognition of abnormal mental states in the child; (4) it is most necessary to remember that early mental sanitation has a most important effect upon the recurrence of insanity; and (5) the Association should devote itself to a thorough examination of this subject. A table should be drawn up somewhat as follows: (1) rules for guidance before dentition; (2) rules during and immediately after this season; and (3) rules up to the third and fourth years; ages after this will be found in books on mental diseases. Departures from the normal may be recognised very early by the way in which the child laughs or cries or sucks. The process of growth, muscular, physical, or mental, must be observed. Is there normal progress in all these? If not, is any one overshadowed by the others?

Dr. SHUTTLEWORTH (Richmond, Surrey), who apologised for his absence during the reading of most of Mr. Bernard's paper, was happy to say that the education of defective children was spreading far and wide. He himself held office under the London School Board on purpose to look after this very subject. The children were taught in special classes and so had more individual attention than was possible in other classes.

Dr. FLETCHER BEACH (London) followed. He quite agreed with the necessity for early diagnosis. He wished to draw attention to the good work done by the National Association for the Protection of the Feeble-minded. This body provided for the care of children, especially girls, born of feeble-minded parents, and so minimised the chances of the same type being illegitimately produced in a future generation. Children were taken in as early as four years old. The subject was a most important one, and he was glad to say it was every day receiving more attention.

Other papers followed, notably one by Dr. W. R. DAWSON (Finglas, Dublin) and Dr. D. F. RAMBAUT (Grangegorman, Dublin) upon the Ocular Phenomena in General Paralysis, which we hope to publish in a future issue.

FRIDAY, JULY 29TH.

Hypnotism, its Phenomena and Theories.

Dr. CLOUSTON opened a discussion upon this subject. In his introductory remarks he said that he thought they had better consider the subject from the following points of view: (1) the phenomena of hypnotism and their explanation both from a physiological and a psychological view; (2) the employment of hypnotism in medical practice; and (3) its uncertainties and dangers—did it leave any residuum in the brain? why are only certain people hypnotisable? He would only say further that the two gentlemen who were to introduce the discussion were Dr. Milne Bramwell, a physician and a practical hypnotist, and Mr. F. W. H. Myers of Cambridge, one of the most learned psychologists in the kingdom. He now called upon Dr Milne Bramwell to read his paper.

Dr. MILNE BRAMWELL (London) said that hypnotic theories were very conflicting and it was impossible to eliminate the personal element from the equation. He had been led to take up hypnotism owing to the case of a personal friend and patient of his own who suffered from traumatic perineal fistula. He was in a very miserable state owing to his having constantly to empty his bladder and though no stricture existed he fancied he could not pass a catheter. Dr. Bramwell in trying to think of some remedy short of a surgical operation remembered the work of Braid and determined to try hypnotism. He therefore hypnotised his patient for three days and then, when in the hypnotic trance, made curative suggestions, such as that there was no need to micturate every 15 minutes, that the catheter could easily be passed, and that the patient should sleep. All these suggestions were acted upon when the patient was in his normal state. The fistula soon closed and the man recovered his health and spirits. Another remarkable case was that of a woman suffering from pruritus vulvæ and eczema in addition to some uterine retroflexion. He attempted to hypnotise her at her own request after she had been treated in every possible way. He failed altogether sixty-seven times. The sixty-eighth time he succeeded in hypnotising her and made suggestions that the pruritus should cease, that she should sleep and generally be well. All these things came to pass and the eczema very soon disappeared. This was three years ago and she had never had a relapse. Dr. Bramwell related other medical cases, notably one in a very neurotic girl with ciliary spasm who, after hypnotism, became strong, well, and happy. The ciliary spasm persisted for some time but eventually ceased. Passing to the surgical side of the question, Dr. Bramwell gave a *résumé* of his trials of hypnotism for surgical operations at Leeds. (An account of them appeared in THE LANCET of April 5th, 1890, p. 771.) In Dr. Bramwell's opinion the patient is not at the mercy of the operator; as for possibility of criminal suggestion, he had found patients to refuse suggestions—e.g.,

putting arsenic in tea—which they would refuse in a normal state. He had never seen any bad results or residua, or the formation of an hypnotic habit.

Mr. F. W. H. MYERS (Cambridge) then delivered a most interesting speech upon The Psychological Side of Hypnotism. He began by thanking the officers of the British Medical Association for permitting a layman to intervene in their debates. He understood that what was desired was some attempt at a coherent psychological presentation of the multifarious and perplexing facts now commonly grouped under the name of hypnotism, which facts physiology was not as yet able to explain. If a somewhat closer approach could be made on the psychological side this must needs be by bringing into comparison a great mass of cognate life-phenomena, such as hysteria, ordinary sleep, and somnambulism. The analogies and differences between hypnotism and hysteria were particularly instructive. Both in hypnosis and hysteria there were disaggregations of the personality, at first apparently similar, afterwards seen to be governed by quite different laws. To understand what happened in either case it was convenient to picture to oneself human personality as in a certain sense stratified, part of it lying above and part of it below the threshold of consciousness, the level above which thought or sensation must rise in order that it may enter into our waking life, or become subject to our voluntary control, or find a place in our chain of memories. Now, the characteristic trouble of hysteria was that fragments of faculty, of power, of sensation or motion, which it was desirable to retain *above* the conscious threshold, were apt to sink down *below* that threshold and thus to become useless to the hysterical patient. For instance, the patient would suffer from hysterical paralysis, say, of one leg or from a diminution of her field of vision while yet there was no perceptible organic injury to brain or leg or eye. What was thus lost could not be recovered at will, but might nevertheless be suddenly restored for a time or permanently by some shock, as when an hysterical paralytic patient recovered the use of her limbs in the terror of a fire, or was able to discern a terrifying object such as a stuffed mouse when it was brought into that part of her normal field of vision of the use of which hysteria had deprived her. With the hypnotised subjects, on the other hand, the case was quite different. They were able to recall at will from beneath the threshold any faculty or sensation which they might have lost through hysteria, so that in just the ways in which hysteria could destroy, hypnotism could fulfil, and they were able also to send down beneath the threshold and dismiss from consciousness sensations which they wished to get rid of, even such insistent sensations as the pain of an operation or of childbirth. The next point of great psychological importance was the analogy between hypnotism and sleep. The essential fact of sleep was the shutting-off of the supraliminal life—the life concerned with facts above the conscious threshold and the consequent increase of inward subliminal recuperative power. Hypnotism in the first place made our entry into this regenerative phase of our personality easy and certain. It did more than this, for in hynotic trance the subliminal plasticity was more marked than in ordinary sleep and the subliminal control intenser, so that hypnosis sometimes seemed to be to sleep what sleep was to waking. Indeed the leading facts of hypnotism, both for physician and for psychologist, the facts which called most pressingly both for explanation and for development, were those profound sanative regenerations which had now so often transformed the dipsomaniac and the morphino-maniac into self-controlled and useful members of society. But how, after all, was this further control over subliminal plasticity—over the *vis medicatrix naturæ*—actually reached? The consensus of hypnotists now declared that the secret lay in suggestion. But what was suggestion? Did the hypnotiser infuse power or merely evoke it? The speaker believed that in some cases there was actually a transmission of power, of some subliminal power akin to what he had termed "telepathy." But in many cases there was manifestly no such transmission: the hynoptiser merely taught the subject to start self-suggestions of his own. What it was that made those self-suggestions effective, that helped him to take hold, no theory could at present tell us. We might learn something by observing prevalent forms of self-suggestion outside the doctor's consulting-room altogether. One of these popular self-suggestions was the fountain of Lourdes, another was so-called Christian science or Mind-cure. Both of these took advantage of deep-rooted beliefs, although expressed with a superstition or an extravagance repulsive to the scientific man. It was, however, the duty of science to clarify, to utilise, to interpret whatever of real self-suggestive efficacy might lurk in any superstition, in any extravagance. By some means or other—and only wide experiment could show what means were best—science must subject to her own deliberate purposes that intelligent vital control, that reserve of energy, which lay beneath the conscious threshold and worked obscurely for the evolution of man.

Dr. YELLOWLEES (Gartnavel, Glasgow) considered that the hypnotic power did not so much lie in the operator but that it was a question of special receptivity in the subject. He found that he could not always succeed even when both he wished to hypnotise and the subject was willing to be hypnotised. As to the question of crime, Dr. Bramwell had cited the instance of putting arsenic in tea, but supposing it had been a matter of merely signing a document would not the subject have agreed to that?

Professor BENEDIKT (Vienna) said that he was quite certain that hypnotism did enfeeble the will. He maintained that if you make an instrument of a man he became attached to you—in fact, haunted you. Professor Benedikt then related a case illustrative of this.

Dr. ROBERTSON (Murthly) detailed his visit to Nancy at the instance of a Commission of the British Medical Association. Luy's results had been discredited and the Commission reported that they must be received with caution. He had seen wonderful results in relief of pain in sciatica and the like in Bernheim's clinic and cited some examples from his own practice where he had used hypnotism with great success in lieu of hypnotic drugs.

Dr. DERCUM (Philadelphia) followed. He quite agreed that hypnotism had its dangers and related the case of a girl in whom he had cured an hysterical joint by hypnotic suggestion. She, however, regularly haunted him afterwards and he had to transfer her to a hydrotherapeutic establishment, having previously suggested to her that this form of therapy was the one for her condition.

Other speakers followed and the debate terminated.

NEUROLOGY.

WEDNESDAY, JULY 27TH.

Dr. FERRIER (London) opened a discussion on

The Treatment, Curative and Palliative, of Intracranial Tumours.

He remarked that the problem of the treatment of intracranial tumours was one of very great interest and one which showed remarkable divergence in the opinion of those who had specially studied the problems involved in it. The percentage of operable cases, if one took into account the extreme views, varied between 2 per cent. and 15 per cent. His opinion was that only 7 per cent. were capable of being dealt with surgically. There were difficulties attending the operation and cases had to be looked at from two points of view—(1) in reference to recovery; and (2) in reference to relief from the symptoms which were present before operation. In 55 cases of which he had particulars operated on between January, 1896, and the present date, 20 died after a few days (37 per cent.); 16—i.e., 29 per cent.—died within a year; 12—i.e., 22 per cent.—passed out of the surgeon's hands; and 7 were alive a year after operation—i.e., 13 per cent. of what may be regarded as complete recovery. Further, of 38 cases treated surgically at the National Hospital for the Paralysed and Epileptic 15 per cent. died in a few hours, 35 per cent. died after some weeks, in 20 per cent. the result was uncertain, and in 6 cases life was prolonged over a year or more. On the whole, cerebral surgery was beneficial in its results. The immediate mortality was not greater than in other severe operations, and the mortality could be appreciably diminished by operating, as Mr. Horsley had recently recommended, in two stages, thus lessening the effects of shock, which were apt to be severe. Most tumours, however, were infiltrating and therefore not easily to be extirpated, and on this account there was a greater tendency to recurrence than after the removal of tumours elsewhere; and it was most desirable, if possible, to find some way of checking the growth of the tumour. Another difficulty which had to be faced was that of deciding whether the tumour was cortical or subcortical. Yet in such doubtful cases exploratory

operation was not only justifiable but desirable, for it was found that even trephining relieves the symptoms of cerebral tumour, and more especially has an influence on the optic neuritis. One question of great importance arose in reference to those cases—viz., should trephining be done in indefinite cases or even in cases in which it was known or suspected beforehand that the growth was not capable of being completely removed? The decision of this difficult question must, he thought, depend upon the particular case and it was perhaps better to put the responsibility of deciding upon the patient after explaining to him and his friends all the risks of the proceeding. In reference to cerebellar tumours, which were regarded by some as indefinite in their symptoms and undefinable in their position, he was of opinion that the risks of operation had been somewhat exaggerated, for experiments show that extensive interference experimentally with the cerebellum was not attended with any fatal effect. On the whole it could be shown that operative interference was followed in a certain number of cases by what might be regarded as complete recovery—i.e., immunity from symptoms for at least a year after operation—and in another class of cases by much relief to all the serious symptoms even if permanent cure did not ensue. Operation was probably to be recommended in a large number of cases. The relief of symptoms by medicinal measures must also be kept in mind and it was now recognised that iodide of potassium and mercury often relieved the symptoms and presumably influenced the growth of tumours which were non-specific and might be even malignant.

Dr. DERCUM (Philadelphia) agreed with Dr. Ferrier in his statement that tumours other than syphilitic, especially gliomata, were, as had been some years ago pointed out by Seguin, very manifestly influenced as regards their symptoms by anti-syphilitic treatment. In reference to the possibility of influencing the growth of brain tumours he related a recent unsuccessful attempt of his own to influence by means of tuberculin the symptoms apparently arising from a tumour of the brain associated with otorrhœa of many years' standing. A large tuberculous mass was afterwards found present in the brain, apparently due to infection from the middle ear and erosion of the temporal bone. He quite agreed with Dr. Ferrier's views as to the great relief afforded in many cases of indefinite or non-localisable tumour by simply trephining the skull.

Dr. COLLINS (New York) expressed surprise and gratification at the large percentage of cases in which not only relief but actual recovery had followed in Dr. Ferrier's cases and associated these results with the matchless surgical skill of Mr. Horsley. He was in the heartiest accord with Dr. Ferrier as to the relief afforded by operation and as to the accessibility to operation of some cerebellar tumours. He strongly advocated lumbar puncture, even carried out daily, for the purpose of relieving optic neuritis (choked discs), and he thought that the use of toxins such as Coley's fluid, &c., in cases of intracranial tumour offered prospects of relief which were by no means small. But many tumours must remain, for some time at least, unlocalisable. These, he thought, should be operated upon—i.e., trephining should be carried out in the hope of obtaining at least relief, perhaps even arrest of the symptoms. And although every syphilitic case should be energetically treated with mercury and iodide of potassium delay in operating in any case in which this treatment was ineffective or inadmissable was almost criminal.

Sir WILLIAM BROADBENT (London) remarked that his experience was small and not very favourable of operation in cases of intracranial growth, but he was of course delighted to have the more sanguine view of Dr. Ferrier, and looking back on the early difficulties which he could remember associated with ovarian operations, &c., he was not inclined to despair of cerebral surgery. His experience was that in cases of intracranial tumour the neuritis was greater on the side opposite the tumour. As regards the effect of iodide of potassium he had many years ago treated a patient in whom there was a negative history of syphilis and who had all the symptoms of cerebral tumour with iodide of potassium, relieving all his symptoms. Quite recently he had again seen him with a recurrence of his symptoms and he mentioned this as a case of intracranial tumour, almost certainly non-syphilitic, in which anti-syphilitic treatment had relieved the symptoms.

Dr. JOHN M. MACCORMAC (Belfast) said he was inclined to be optimistic, although results now only indicated hope in the future. He found phenacetin useful for the headache and hyoscin for the vomiting of cerebral tumour.

Dr. BEEVOR (London) mentioned four cases upon which he had operated which were now alive after two years or more. He was in favour of operation for palliation of the symptoms in cases of non-localisable or non-removable tumours. In such cases if no relief followed trephining he would advise puncture of the ventricles.

Mr. WATERHOUSE (London) had trephined in ten cases, four of them cases of infiltrating growth. In three of these all symptoms—headache, vomiting, &c.—disappeared at once; in the other case occasional headache persisted, but was easily relieved. Optic neuritis also disappeared in these cases, so that much relief was afforded.

Dr. E. F. TREVELYAN (Leeds) doubted whether tuberculous tumours so frequently became obsolescent as was supposed and in his experience such tumours were usually multiple.

Dr. MICHELL CLARK (Bristol) thought that hardened gummata not removed by anti-syphilitic treatment were usually found in cases in which the anti-syphilitic treatment had not been adopted in the early stage and he called attention to a class of case of cerebral tumour in which spontaneous recovery occurs.

Mr. J. PAUL BUSH (Bristol) spoke of the difficulty of the surgeon had in deciding at an operation whether he had to deal at the margin of a growth with healthy brain tissue or morbid growth.

Mr. COTTERILL (Edinburgh) thought that in spite of success operative treatment of cerebral tumours was not satisfactory. Yet exploration and removal of pressure seemed important and desirable and he detailed various important points as to the technique of operation.

The PRESIDENT cordially endorsed Dr. Ferrier's view and gave details of his own cases. Out of 123 of his cases however, examined post mortem only 5 could have been successfully treated by removal of the tumour. He referred to the spontaneous subsidence of symptoms in certain cases and expressed the view that such cases were possibly not cases of tumour but of hydrocephalus associated probably with meningitis. He expressed surprise at the favourable results furnished by Dr. Ferrier's cases and attributed them to the careful consideration of cases, by which certain cases were not submitted to operation, and to the care and skill with which the operations were conducted. He had not been so much impressed as some speakers apparently were with the palliative results of operation.

Dr. FERRIER, in reply, said that in his experience optic neuritis as a result of frontal tumour most often occurred on the same side as the growth, and he hesitated to express a definite opinion on the efficacy of lumbar puncture. His views, of course, as to "recovery" were necessarily modified by the fact that he regarded cases living a year after operation as cases of recovery, and also he regarded cases as recovered even if paralysis remained—paralysis the result of destruction caused by the growth before the operation had been undertaken.

THURSDAY, JULY 28TH.

Dr. BUZZARD (London) opened a discussion on

The Influence of Micro-organisms and Toxins on the Production of Disease of the Cerebral and Peripheral Nervous System.

He began by stating that he could not expect to do more with such a subject to discuss than throw out fragmentary suggestions which might be useful to other workers at this highly interesting aspect of neurology. Micro-organisms probably acted in two different ways—directly by the actual effect of the organisms themselves on the nervous tissues and indirectly through the agency of chemical substances produced by the action of the micro-organisms on the blood or other tissues of the body. Diphtheritic paralysis was probably the most striking and undoubted condition showing the effect of a chemical substance probably resulting from the action of the bacilli. The ordinary acute anterior poliomyelitis had always seemed to him to be a disease of infective character, and the fact that as a rule cases occurred sporadically did not seem to him to militate against such a view. Basic meningitis had lately been distinctly shown by Still to be microbic in origin, yet all the cases in the Hospital for Sick Children during the last ten years had been sporadic cases. So the fact that infantile paralysis usually occurred in isolated cases was evidently no argument against its bacterial origin. Further, it was not uncommon to find that in a family in which a case of infantile paralysis occurred one or more of the other children were ill with

similar symptoms, their illness, however, not resulting in paralysis. He also referred to epidemics of the disease which had been described by several observers. The poison usually falls with greatest force on the anterior nerve cells, but is not always confined to them, for convulsions occasionally occur, pains in the limbs are not infrequent, and spasticity may result. He then referred to another disease—insular sclerosis—and said the view enunciated by Pierre Marie was apparently gaining ground—viz., that this disease is really an infectious one. Patches of myelitis undoubtedly do occur as a sequel to infective fevers. But while not claiming that this was the same condition he thought that the periods of remission in disseminated sclerosis, so similar to those occurring in constitutional syphilis, indicated the infective character of the disease. Tabes was another disease the close connexion of which with syphilis no one could doubt. It was an interesting question how far tabes was a result of specific infection and he suggested that not syphilis merely but also chancroids might be the infection preceding tabes. We know that neuritis may follow different kinds of microbic infection and probably myelitis also may do the same. There seems no reason why tabes should not similarly follow different kinds of microbic infection.

Dr. DERCUM (Philadelphia), after thanking Dr. Buzzard for his suggestive address, remarked that the action of toxins was probably a general one on all the tissues, with a local expression at some very susceptible part.

Dr. JOSEPH COLLINS (New York) had found in the examination of cases from the Vermont epidemic that the nervous system generally was affected, yet no specific organism was found. He did not agree with the view that disseminated sclerosis is infective. He thought a more probable explanation was that it was a result of congenital abnormalities. The nutritional balance of the cells of the nervous system was also of much importance in reference to nervous disease.

Dr. F. J. SMITH (London) related two cases of apparently some infective nervous affection after a septic wound and suggested that in such cases where the symptoms pointed to peripheral rather than central affection the transference of symptoms from one side to the other should be regarded as the result of nerve influence.

Dr. JOHN M. MACCORMAC (Belfast) remarked on the great divergence of opinion as to the connexion between tabes and syphilis and expressed the opinion that the changes in the nervous system in disease are chemico-physical in nature.

Dr. J. A. ORMEROD (London) thought that in tabes there must be more than mere microbic infection, probably personal susceptibility. For it is well known that tabes occurs ever so much more frequently in men than in women and cases of Friedreich's ataxy became much worse after an illness. Indeed, in some cases the illness seems to evoke the first symptoms and he would be inclined to think the microbic origin of disseminated sclerosis and even of infantile paralysis was "not proven."

Dr. R. A. FLEMING (Edinburgh) thought that in peripheral neuritis the vaso-motor nerves probably suffer and so there is exudation into the sheaths with pain and paralysis.

Dr. MOTT (London), in detailing the changes which he had found in two cases of beri-beri, remarked on the direct effect apparently exerted on the cardiac muscles by the poison of this disease and on the severity of the clinical symptoms as compared with the amount of change found in the nervous system.

Dr. FERRIER (London) remarked on the great suggestiveness of Dr. Buzzard's address, but was inclined to regard the infective theory of the origin of disseminated sclerosis as seductive but not proven. Of the close connexion between syphilis and tabes dorsalis and also general paralysis of the insane he had no doubt.

Dr. ALEXANDER BRUCE (Edinburgh) had found in a case he had examined recently, in fresh foci of disseminated sclerosis, a blood-vessel in the centre and he thought that the change probably spread from this vessel and was caused by some toxic substance which had the effect of dissolving the myelin. The change occurred symmetrically round the vessel and evidently spread from it.

Dr. E. F. TREVELYAN (Leeeds) described a condition of disseminated myelitis found by him in dogs which died after canine chorea and distemper and he described a case in which death occurred eighteen days after exposure to cold. There was suppuration in the back muscles, empyema, and myelitis.

The PRESIDENT thought that toxins in many instances gave rise to changes, but he thought that toxins were not always of microbic origin but were produced sometimes inside the body. He referred to the fact that second attacks of infantile paralysis were practically unknown as evidence of infective character. He thought herpes zoster was probably microbic and facial paralysis seasonal. He referred to muscular atrophy (myopathy) with little change in the nervous system as occurring as a sequel to sprue and he was inclined to regard disseminated sclerosis as a result of intoxication.

Dr. BUZZARD replied on various points raised, and the PRESIDENT, in conclusion, thanked him for his introductory address.

Dr. BEEVOR (London) read a paper on

The Action of the Latissimus Dorsi in Hemiplegia.

He said that this muscle had three different actions—in moving the arm, in coughing voluntarily, and in coughing reflexly. In hemiplegia the voluntary action in moving the arm was usually lost on the paralysed side, the voluntary action and the reflex action in coughing both usually remaining. Sometimes, however, the voluntary action in coughing was also lost but the reflex action remained. He remarked on the possible usefulness of the condition as a diagnostic sign.

PATHOLOGY.

WEDNESDAY, JULY 27TH.

Dr. G. SIMS WOODHEAD (London) read a paper on

Post-Diphtheritic Paralysis.

He began by quoting statistics from a large number of cases of diphtheria or suspected diphtheria in which a bacteriological examination had been made at the Conjoint Laboratories, with the object of showing the large proportion of cases in which paralytic phenomena developed. The distribution of the primary paralysis was as follows. Out of 494 cases 185 were primary paralysis of the fauces, 197 of the oculo-motor muscles, 10 of other muscles, and 102 of primary paralytic heart failure. In regard to the time of onset important observations were made. Of the paralyses of the palate the great majority occurred between the fifth and fifteenth days; none before the fourth. Of the oculo-motor paralyses the bulk occurred between the fourth and seventeenth days; none before the fourth. Of the paralyses of other muscles about one-half occurred between the tenth and fourteenth days; none earlier than the tenth. Of the cardiac paralyses the bulk occurred between the fifth and tenth days, and in a few instances as early as the second day. In each of these groups the onset of the paralytic symptoms might be delayed for many days. It was obvious, however, that in the human subject the bulk of the paralyses occurred at a comparatively early date and cardiac paralyses earliest of all. The fact that the heart might be affected so much earlier than the other muscles appeared to indicate that the primary lesion probably occurred in the nerve-cells. These lesions were easily overlooked, because the changes were transient except in those cells which were completely degenerated. Sidney Martin, Meyer, and others had described segmental degeneration of the motor nerves, but in all probability such changes were of a Wallerian type. The toxin acted primarily on the nerve-cells which either degenerated or recovered at an early date; later the nerves for which these cells acted as trophic centres showed secondary degenerative changes, and only then was the paralysis revealed. After experimental inoculations of guinea-pigs for the purpose of testing antitoxins, paralyses occurred more frequently than before, probably owing to the larger doses of toxin and antitoxin now employed. Madsen, who used the original method of testing—i.e., neutralising with one-tenth of an antitoxin unit—found that most of the cases of paralysis in guinea-pigs developed at the end of the third week. He pointed out that the paralysis, when it did occur, followed the local infiltration which resulted from the injection of an incompletely neutralised dose of toxin. It began in the posterior part of the trunk and in the hind limbs. Later the symptoms became more pronounced and the paralysis gradually extended forwards to involve the fore limbs also. The muscles of the head and neck were the last to be affected. In spite of the extreme muscular weakness the animals were still very lively and continued to eat as long as there was food within reach. Ehrlich, on the

other hand, observed that the bulk of the paralyses in guinea-pigs appeared at the end of the second week, but his observations were made on animals in which the neutralising amount of serum was one unit. In this connexion it was important to note that the diphtheritic poison was a highly complex body and appeared to include several substances possessing different properties: (*a*) a substance possessing lethal activity; (*b*) a locally irritating body; (*c*) albumoses which produced a marked reaction on the body temperature; and (*d*) a substance which had a special action on nerve-cells. Now, some of these substances combined with the antitoxin only after the lethal and locally acting toxins had been neutralised, and this was especially the case with the substance which produced paralysis. Hence the larger the total doses of toxin and antitoxin employed the greater would be the risk of some of the paralysis-producing substance being left over. In other words, there were more cases of paralysis when a theoretically ten times lethal dose was neutralised by the corresponding amount of antitoxin than when unit doses were used, and still more cases of paralysis when 100 times the theoretically lethal dose was used. The author's observations also showed that the amount and severity of the local swelling was no indication either of the probability of the occurrence of paralysis or of the rapidity of its onset.

Dr. MOTT (London) congratulated Dr. Woodhead on his valuable contribution to a subject of great interest and importance. He suggested that the diphtheria toxin acted in the first instance on the most vulnerable parts of the neuron—i.e., on the fine branching filaments of the dendron and on the terminations of the axis cylinder process. These parts were bathed in lymph and therefore specially exposed to the action of irritants diffused throughout the body. He had examined cases of diphtheritic paralysis in man and had found degenerative changes in the heart without degeneration of the vagus nerve. He thought the early cardiac failure was due to the effect of stress. The weaker the heart became the faster it had to work and it would therefore more readily succumb to the action of the toxin.

Professor BAGINSKY (Berlin) said that he had been led by his own observation to believe that cases of post-diphtheritic paralysis were less common than before. He had found advanced degenerative changes in all parts of the nervous system, including both nerve-cells and nerve-fibres. The muscular tissue of the heart and diaphragm showed also extreme degeneration. He thought that cerebral embolism was the most common cause of post-diphtheritic hemiplegia and said that such cases should not be included among the true diphtheritic paralyses. He thought that antitoxin treatment should be practised as early as possible in order to reduce the number of cases of paralysis in diphtheria.

Dr. GOODALL (London) said that cases of post-diphtheritic paralysis were undoubtedly more common than before, because under the antitoxin treatment the patients either recovered or lived longer. The number of fatal cases, however, had greatly diminished. Moreover, if antitoxin be given at a sufficiently early stage, the number of cases of paralysis would be lower instead of higher than before. In a number of cases of post-scarlatinal diphtheria in the Metropolitan Asylums Board's Hospitals the proportion of those affected by paralysis was considerably less than among the diphtheria cases admitted from outside in the same time. The former series of cases were under skilled observation from the beginning and in them the antitoxin treatment was commenced at an early stage.

Dr. SIMS WOODHEAD, in reply, said that he was now convinced that antitoxin by itself had no power of producing paralysis even in large doses. He believed that the heart failed most readily and earliest because it was the organ which had least rest. He had advocated this cause in his article on Tetanus in Clifford Allbutt's "System of Medicine." Overwork and malnutrition were the great factors even in those paralyses which appeared later. The poison did its work, but it was only when muscle and nerve were called into functional activity that the full extent of the damage was revealed. The practical outcome of the whole discussion was that the antitoxin should be used early, before degenerative changes had occurred, and that a sufficient dose should be given to neutralise not only the lethal action of the toxin but also its local and its paralysis-producing action.

Dr. J. LORRAIN SMITH (Belfast) read a paper on the

Pathological Effects of Breathing Oxygen at a High Tension.

Previous observers had noted that when animals were compelled to inhale oxygen at a greatly increased tension a series of changes were produced which were partly functional—e.g., respiratory and circulatory disturbances—and partly of the nature of tissue degeneration. Bert in particular found that special effects might be produced in the nervous system resulting in well-marked convulsive or tetanic symptoms. In his own experiments on mice and small birds Dr. Lorrain Smith investigated the tissue changes which develop prior to the strychnine effect. At an oxygen tension between 70 and 80 per cent. of an atmosphere about 50 per cent. of the animals died in about a week. At 130 per cent. mice invariably died after an average exposure of 64 hours with a pneumonic condition of the lungs characterised by intense congestion and an exudate into the alveoli which was either fluid or granular, but not fibrinous, and which affected the whole lung simultaneously. At 180 per cent. death occurred very uniformly in about 24 hours, and at 300 per cent. the duration of life might be reduced to 5 hours. It was also noted that the absorptive power of the lungs was seriously impaired by exposure to high oxygen tension. At 300 per cent. small birds became very excited and in about ten minutes showed violent tetanic symptoms. It was found that this convulsive effect was not produced in birds by an oxygen tension of less than 270 per cent., whereas mice did not begin to show it until a tension of 450 per cent. was attained. The strychnine effect in birds was further found to depend upon the integrity of the lung tissue; for birds with damaged lungs react like normal mice, so that the onset of tetanic symptoms did not appear until a tension of 450 per cent. was reached. That this effect depended entirely on the tension and not on the quantity of oxygen in the blood was also shown by mixing carbonic oxide with the oxygen at different tensions, when it was found that the tetanic symptoms developed at the same tension as before. Hence it was concluded (1) that an oxygen tension of 80 per cent. and upwards would produce a pneumonic condition in the lungs of small birds and mammals and (2) that tetanic symptoms were developed at a tension of 270 per cent. in birds and at 450 per cent. in mice, and that their onset was independent of the quantity of oxygen in the blood but depended on the tension alone.

PHARMACOLOGY AND THERAPEUTICS.

WEDNESDAY, JULY 27TH.

Diseases of the Stomach.

After Dr. AFFLECK'S introductory address (which was published in THE LANCET last week) a discussion was commenced upon the Treatment of Diseases of the Stomach as relating especially to—(*a*) general treatment and diet; (*b*) the influence of drugs upon the gastric chemical processes; (*c*) the influence of the treatment of coexisting maladies; and (*d*) the indications for surgical treatment. It was opened by Dr. HERSCHELL, who mentioned that perhaps the most difficult disease to treat was atony. The indication was to improve nutrition. Electricity was valuable especially if employed as shocks from an induction coil having a very thick primary wire and a very slow make and break. Hydrotherapy was useful, and so was lavage and douching of the stomach with alternately hot and cold water. Care must be taken in washing out or douching the stomach to avoid over-distension. This was to be attained by using a double tube with the efferent tube of much larger calibre than the afferent. The douche should be continued for 5 minutes, varying the temperature from hot to cold every 60 seconds. As for dietetics in hyperchlorhydria theoretically a proteid diet was indicated, but it did not succeed in practice, for the very fact that hydrochloric acid was necessary for the digestion of proteids in the stomach seemed to increase the already too free secretion of that acid. Therefore he recommended a carbohydrate diet predigested and neutralisation of the acid with alkalies. He did not much believe in artificial digestive ferments, with the exception of taka-diastase. As to drug treatment he had found very weak solutions of tannin useful in hyperchlorhydria.

Professor EWALD (Berlin) followed. After thanking the Association for the honour they had conferred upon him, he said that rational therapeutics were impossible without exact diagnosis. Purely local treatment was not enough. Referring to modern methods of diagnosis he mentioned the gastro-diaphane as being of great value. In cases of neurasthenic dyspepsia he relied chiefly upon treatment calculated to improve nutrition generally, such as electricity and massage. Passing to the subject of gastric ulcer he said that on the

whole it was a most satisfactory disease to treat. Rest in bed was paramount if acute symptoms were present. Nutrient enemata were to be given with a little ice by the mouth for five days or so. After this a small quantity of food might be given by the mouth, and if this did not cause pain it might be continued. As to hysterical vomiting in that form which depended upon cramp of the pylorus and which was very intractable, the only thing to be done was a gastric enterostomy. Speaking of the surgical treatment of malignant disease Professor Ewald said our results were better than formerly because the disease was diagnosed earlier, but the mortality was still too high.

Dr. SAUNDBY (Birmingham) urged the necessity of rest in even slight degrees of gastric disease. It should be accompanied by massage to prevent weakness and to keep up the nutrition of the muscles. He wished to enter a protest against the indiscriminate prescribing of whisky in dyspepsia. It was an irritant and did more harm than good. With regard to gastric ulcer diagnosis was impossible in the absence of hæmorrhage. He did not use rectal feeding unless there were hæmorrhage, but kept the patient in bed on a liquid diet for the first day or so, gradually making it more and more solid.

Dr. LAUDER BRUNTON (London) said that one remark of Dr. Herschell had cleared up for him what had long been a difficulty—namely, why sometimes a bitter like calumba seemed to do good and at other times infusion of gentian. He now supposed that in cases of hyperchlorhydria the gentian would succeed better because it contained tannin. The giving of bicarbonate of soda might in some cases help in the diagnosis of gastric ulcer. If the patient were told to put a drachm of bicarbonate of soda in a tumbler of water and sip it slowly many cases of gastric pain would be relieved. If the pain were not relieved the case was not one of ulcer. It was as well to administer the bicarbonate of soda in lime water to lessen the chance of provoking hæmorrhage.

Professor F. B. TURCK (Chicago) read a short paper upon his method of diagnosis and treatment of gastric disorders. He advocated what he termed pneumatic gymnastics—i.e., distending the stomach with air, hot or cold, moist or dry, or mixed with some nebulised drug such as oil of cloves. The alternate distension and contraction of the stomach on escape of the air was of service in improving the muscular tone of the viscus. The stomach must be thoroughly cleansed and the best way to do it was by means of the gyromele or revolving sponge-brush.

After the discussion was over Dr. TURCK gave a demonstration of the various instruments and methods which he employs. The demonstration, which was very interesting, was largely attended.

THURSDAY, JULY 28TH.

The subject for discussion was

The Treatment of Chronic Renal Diseases,

which was opened by Dr. NESTOR TIRARD in a paper of which the following is an abstract.

For the purposes of the present discussion it may be convenient to divide the subject of chronic renal disease according to broad pathological lines under the headings of chronic nephritis, renal cirrhosis, and lardaceous disease. In chronic nephritis there is a tendency to the occurrence of subacute attacks with small provocation. Patients who have been passing a fairly large amount of albumin in urine of almost normal specific gravity may from time to time pass blood, and the appearance of the urine might, in the absence of history, lead to a diagnosis of acute nephritis. Hygienic treatment, therefore, has largely to be directed towards diminishing the risk and frequency of these subacute attacks, and there is very little doubt that these risks may be diminished by the avoidance of exposure to sudden alterations of temperature, and much may be done by clothing in non-conductors which readily absorb moisture and from which evaporation proceeds slowly. Patients should, so far as possible, guard against business anxieties and worries, and against late hours and other forms of excess. In considering the dietary of patients with chronic nephritis or with renal cirrhosis it must not be forgotten that patients frequently suffer from dyspepsia and distaste for food. A small quantity of alcohol, preferably in the form of a pure spirit, is useful, while for diet milk, fish, or fowl may be given. Of all diuretics the very best is water. Hæmaturia requires rest in bed and warmth. Astringents, though sometimes useful, are very liable to interfere with the digestion. For dropsy we have diaphoretics, diuretics, and hydragogue purgatives. In the first class are the various forms of hot-air baths and wet packs and pilocarpine. This last must be used with the greatest caution in cases of weak, dilated, or fatty heart, and if used at all under such circumstances must only be so as the starting-point for diaphoresis. In cirrhosis of the kidney treatment has to be almost entirely symptomatic, but the nitrites are useful in relieving tension. For sleeplessness opium may be given with caution, though hyoscine is to be preferred. Sulphonal is also useful. For acute attacks of uræmia nitrite of amyl is often efficacious; chloroform must be given with great caution. In uræmia occurring in acute nephritis purgatives and diuretics are useful, but in the uræmia of chronic nephritis they are not so useful as there is so little kidney substance to work upon.

Professor EWALD (Berlin) read a paper on the Benefits to be obtained by Venesection and repeated Tappings. He used rather larger tubes than is customary in this country. Venesection, however, must not be used for those patients who had a weak pulse.

Dr. J. BARR (Liverpool) considered that the amount of albumin did not matter much. What was important was the amount of effete matter retained. He advocated an exclusively milk diet and considered pilocarpin most dangerous.

Dr. D. C. MCVAIL (Glasgow) said that the estimation of the urea was very important. *The* diuretic was water, aerated for choice, and if patients exhibited a distaste for it salines were to be given, and the best saline was common salt. He allowed milk, fish, and chicken. Opium might be given with safety, and pilocarpin was most useful.

Dr. SAUNDBY (Birmingham) also considered that the diet need not be strictly confined to milk. For uræmia he employed a brisk purge, the hot-air bath, and large enemata of cold water. For uræmic dyspnœa erythrol tetra-nitrate was often useful.

Dr. C. J. MACALISTER (Liverpool) wished to draw attention to the use of oxygen inhalations in uræmia. They seemed to increase both the amount of urine and the amount of urea. Pilocarpin was a dangerous drug if the patient was unconscious owing to the risk of setting up œdema of the lung. Opium and its preparations were, he thought, quite allowable in cases of uræmia where the pupils were dilated, but if they were contracted hyoscine must be employed.

After the discussion Professor EWALD and Dr. HERSCHELL gave a demonstration of Intra-gastric Instruments, and Dr. TURCK repeated his demonstration of Wednesday.

LARYNGOLOGY AND OTOLOGY.

WEDNESDAY, JULY 27TH.

Introductory Remarks.

Dr. PETER MCBRIDE (Edinburgh), President of the Section, said the best literature on Laryngology came from journals from Germany and France. New remedies are too often praised by the inventor in whose hands only they are successful. Laryngologists are human. It is necessary for every specialist to keep pace with the literature of his subject. It falls most hard upon lecturers and writers of text-books to do so. Abstracts of papers are a great help, but they are not always correct representations of what the author wishes to convey. A leading specialist can hardly accept one single author as his guide. Only papers of great use ought to be abstracted and published in English or French from foreign journals. Specialists are apt to magnify the importance of their speciality. He referred to an undue therapeutic credulity and to the glut of literature. Although there is much that is good there is more that is valueless. The amount of literature bears heavily upon conscientious readers. He suggested that a committee should be formed by the best-read men in the literature of the subject; they should decide which papers ought to be abstracted, and that there should be a staff of younger men working under their direction as abstractors and their abstracts should be supervised by the committee in this way.

The Mutual Relationship and Relative Value of Experimental Research and Clinical Experience in Laryngology, Rhinology, and Otology.

This discussion in its particular bearing on laryngology was opened by Sir FELIX SEMON (London), who began by describing the discrepancies of opinion concerning this question at present existing amongst laryngologists and humorously

depicted the gradual shades of opinion, from the extreme right wing, the "stern unbending Tories," representing those clinical laryngologists who did not believe in the value of experimental research at all, to the radical left, or the "stalwarts" of experiment, who looked upon clinical experience as mere "bag and baggage." He himself confessed to belong to the "centre" party—i.e., those who from experience of their own had arrived at the conclusion that methods properly applied are extremely valuable. This thesis the speaker supported by a rapid survey of the achievements, the failures, the applicability, and the sources of error of each method. It was first shown by a series of illustrative examples that the clinical method, whilst usually most successful in determining not merely the nature of most local affections of the larynx, but also of grave constitutional disease in distant parts, yet in not a few instances did not suffice for the establishment of a positive and certain diagnosis, and that in other cases even when showing the nature of the disease it did not give an explanation of its causation. It was further pointed out that even the employment of all modern accessory methods of investigation (microscopy, electricity, bacteriology, &c.), did not afford guarantee of an absolutely reliable conclusion in many instances. Hence the desirability of further help in that respect was unreservedly admitted, and the importance of experimental research in view of thé progress obtained by its employment in so many other branches of medicine was duly emphasised. At the same time the question was asked whether its results so far as obtained with special regard to laryngology had been of so universally reliable a character as to justify its laying down the law to clinical laryngology. In reply to this the principal experiments referring to special laryngological subjects were passed in review, and it was shown (1) that the applicability of experimental research in laryngology had been so far very limited; (2) that in certain instances its results had undoubtedly been decisive and of great importance to clinical progress—e.g., in the question of extirpation of the larynx, of the special representation of the larynx in the cerebral cortex, of the existence of the reflex-tonus of the dilator muscles of the glottis during quiet respiration, &c.; (3) that, on the other hand, its employment had in various questions not only not cleared up previously existing difficulties, but had on the contrary increased them; and (4) that the experimental method had so far failed in elucidating some of the fundamental laryngological problems—e.g., the question of the ultimate origin of the recurrent laryngeal nerve, the question whether this nerve contained centripetal fibres, &c. In continuation of this argument it was pointed out that in purely pathological experiments—i.e., in the imitation of pathological processes by experimental research—the results had been even less satisfactory, inasmuch as in the two most important attempts of the kind which have so far been made —Krause's attempt to experimentally imitate the pressure of a growth upon the recurrent laryngeal nerve and Klemperer's injection of pathogenic micro-organisms into the laryngeal areas of the cerebral cortex—the results had caused an augmentation rather than a diminution of the discrepancies of clinical observers on these important points. The speaker endeavoured to explain this by enumerating the various and grave sources of error in experimental research with which he had become personally acquainted and from this drew the conclusion that there were four general principles which ought always to be remembered when experimental research was resorted to for the solution of laryngological problems—viz: (1) what was the question to be solved? (2) what was the method of the experiment undertaken for its solution? (3) what were its possible or probable sources of error in the individual case? and (4) who was the experimenter? In support of these propositions he pointed out (1) that not all questions in which the help of experimental research was invoked were equivalent and equally suitable for experimental investigations; (2) that there were enormous differences between the methods of various experiments; (3) that the sources of error encountered in certain experiments were so manifold and so great as to entirely spoil the application of their results to apparently analogous conditions in man; and (4) that a rare combination of qualities was required to make a successful experimenter. The conclusion ultimately arrived at was a reaffirmation of the speaker's conviction expressed eight years ago in the *Virchow-Festschrift* and couched in the following terms:—"Many years' clinical and experimental investigation leaves no doubt in my mind that in these questions experiment cannot lay down the law to clinical observation or clinical observation to experiment. I feel equally certain there is no incompatibility between them, that the one completes the other, and that whenever a contradiction seems to arise the conflict is only *apparent*. With sufficient patience and care it can always be traced to defective clinical or pathological anatomical observation, to faults in the experimental method, or to an incorrect way of stating the problem."

Dr. MILLIGAN (Manchester) dwelt at some length on streptococci and pathogenic infection and also referred to the value of Dr. Koch's researches. He touched on the importance of purulent discharge from the ear, otorrhœa and diseased bone, and said that we should go carefully into the exact etiology, whether lymphatic, vascular, or tuberculous, or by direct means of infection. He dealt at some length on adenoid growths being tuberculous, the frequency of tuberculosis in them being, he found, 7 per cent.; others had reported 3 per cent. He thought it pointed to the fact that adenoid masses gave rise to and spread tuberculosis. We knew too little of the spread of tuberculosis from adenoid masses and catarrhs of the upper air-passages. We should have (1) a knowledge of the production of disease from these sources, and (2) of the ultimate result of mastoid circulation suppuration. (He showed a specimen illustrating tuberculosis from adenoid masses.)

Dr. DUNDAS GRANT (London) remarked upon the unanimity of opinion of all who had listened to Sir Felix Semon's and Dr. Milligan's observations, and referred to Cheyne's work as a perfect monument to his fame and to his experiments on rabbits; by stopping up the nose of young animals he produced growths, atrophy, and curvature of the spine. He referred also to Dr. Cresswell Baber's case before the Laryngological Society of London touching on these experiments. Dr. Grant had also found that the atrophy, &c., took place on the wrong side. He thought the discussion was good and well worth being brought forward.

Dr. ST. CLAIR THOMSON (London) agreed with Sir Felix Semon and Dr. Milligan. He himself had had a case which did not come up to Sir Felix Semon's observations. He mentioned the experiment of an American authority on animals exposed to very bad air, who explained his results as proving that "individuals" were not any the worse for inhaling sewer air. He referred to Dr. Schaffrey's experiments with bacilli in a test-tube exposed to sewer air, the bacilli were not rendered more or less virulent by exposure to sewer air. He also referred to infections of the Eustachian tube and to the fact that the serum of the nternal ear was sterile prior to perforation of the tympanum.

DISEASES OF CHILDREN.

WEDNESDAY, JULY 27TH.

Spinal Caries.

Mr. VICTOR HORSLEY (who was unable to be present) sent a paper on the Treatment of Spinal Caries. He said that the question of the best treatment of the lesion of the bones was more important than that of subsequent deformity. He held that vertebral caries should be treated in the same way as tuberculous disease of bone elsewhere and advocated early operation. There was no special risk attaching to aseptic operations on the spine. He himself had only seen severe shock after operation in the case of one child, and it could be entirely avoided by performing the operation in two stages. Some considered that operation might arouse quiescent tubercle, or the dissemination of tubercle. This he sought to prevent by free flushing with dilute perchloride lotion (1 in 5000). He took away laminæ freely and tried to remove the whole of the disease. Deformity might be altogether prevented if the operation were done early and subsequent elastic traction were maintained. The extension should be made from anklets, and from the head as well as the axilla. It was often very difficult to tell whether there were an abscess, as pain and fever were often absent. The best guide was the degree of collapse of the bodies indicated by displacement of the spines. Post-pharyngeal abscesses should be opened from the side of the neck; never through the mouth. Any inflamed lymphatic glands around the carotid could be removed at the same time. In the dorsal region it was often difficult to get at all the diseased bone and to follow up an abscess, and many laminæ should be freely removed if necessary. He had no personal experience of Calot's operation, which did not provide for treatment of an abscess, and

there was no guarantee that it would permanently relieve the deformity.

Mr. ROBERT JONES (Liverpool) said that if it were possible to get at all the diseased bone he would be able to accept Mr. Horsley's conclusions. But the examination of pathological specimens showed that this would often be impossible. He did not approve of elastic extension, as if it were strong enough to produce rigidity it would be insupportable to a small child. He strongly insisted that any support should be convex so as to produce some lordosis to prevent falling in of the bodies. Patients were quite comfortable in such a position provided that the legs were not on the convexity but lay on a flat surface. Sayre's jacket was unsatisfactory. It merely acted as a ferule, either too tight or too loose. Whatever apparatus was applied the shoulders must be well pulled back. If caries were treated by an extensive open operation there was considerable risk of septic infection subsequently. He had performed the Calot operation 93 times with 7 deaths at periods of from six weeks to nine months after operation, the same proportion of deaths as in a number of cases which were not submitted to this procedure. He believed there was a future for the operation.

Mr. R. W. MURRAY (Liverpool) had performed Calot's operation 14 times and he was bound to say that he did not approve of it. Although no accident had occurred owing to the immediate reduction the cases had not done well, and in the case of two who died subsequently it was found that there had been no attempt at repair.

Mr. NOBLE SMITH (London) thought that if patients were in good health and properly treated deformity did not often occur. Fixation by extension was unsatisfactory, and in the position of lordosis advocated by Mr. Jones there was risk of bringing inflamed surfaces of bone together. He preferred support by apparatus. Removal of the whole disease was often impossible, and that it was not necessary for recovery was shown by the progress of many cases of hip disease.

Mr. A. H. TUBBY (London) said that the treatment depended on the stage of the disease. If treated with recumbency in a position of partial lordosis till pain passed off most cases would recover without deformity. When deformity had occurred Calot's operation, although still on its trial, promised to be of great service. He himself had performed it in 29 cases.

Mr. THOMAS (Birmingham) emphasised the importance of being constantly on the look-out for signs of caries, as its onset was often insidious. The most important factor in treatment was fixation of the spine by whatever means secured. He thought that the opening of abscesses should be left as long as possible. With reference to Calot's operation he mentioned that he had trouble in one case from tendency to sores on the skin which had been formerly stretched over the boss.

Mr. F. CHURCHILL (London) spoke in favour of conservative treatment.

Mr. LUCKHAM (Salisbury) thought that when patients had the advantage of good country air operation was rarely called for. If an abscess formed he aspirated once or twice and injected iodoform emulsion. Incision was often thereby avoided, and if necessary the wound was more easily kept aseptic.

Dr. E. E. DYER (Alloa) also spoke.

Mr. H. J. STILES (Edinburgh) read a paper on the Treatment of Mastoid Disease in Infants, and pointed out that while intracranial complications are relatively less frequent in children than in adults, mastoid abscess was more frequent. He showed that the operation of clearing out the mastoid antrum in infants differed in one or two important points from that in the adult in consequence of the anatomical peculiarities of the temporal bone in the infant. On account of the absence of the mastoid process the stylo-mastoid foramen and therefore the facial nerve which leaves it is exposed to injury by the incision to expose the antrum. To avoid the nerve this incision must not extend too low down and the lower part of it must not extend down to the bone. The root of the zygoma must not be taken as a guide to the antrum, because if the bone be penetrated below this ridge the middle fossa of the skull will be opened immediately in front of the antrum.

Mr. R. W. MURRAY read a paper on Harelip and Cleft Palate, containing the results of 125 sutures. The various methods of operating were shown on the screen. Mr. Murray emphasised chiefly the value of the button suture and the desirability of closing the soft palate before the child tried to learn to talk.

Mr. MURRAY also read a paper, with many illustrative lantern slides, on the Treatment of Club Foot by Tenotomy and Tarsectomy.

Mr. A. H. TUBBY read a paper on the Occurrence of a Dorsal Pad on the Feet and occasionally in Rickets. In some the prominence was subcutaneous and semi-fluid and in some bony according to the duration of the condition.

Mr. STANSFIELD COLLIER (London) read a paper on Dislocation of the Hip-joint occurring in the Course of Infectious Diseases. Mr. Collier held that there were two types: (1) those associated with arthritis and (2) those where the dislocation was due to relaxation of ligaments with loss of tone of some muscles and over-action of their antagonists.

THURSDAY, JULY 28TH.

Mr. HUTCHINSON (London) opened a discussion on

Certain Aspects of Congenital Syphilis

and dealt chiefly with affections of the bones and the organs of special sense. He referred to the occurrence of a rare form of bone disease closely simulating osteitis deformans which sometimes occurred as a late development of the disease. He said that keratitis might occur during the first months of life, after that it was most frequent at the age of twelve, but that it might occur from the age of twenty to forty. In the latter cases there was often simultaneous syphilitic synovitis. Deafness, on the other hand, occurred solely in comparatively young patients. Arrest of mental development and partial idiocy might come on in adolescence in congenital syphilitics who had been brightest children. As regards prognosis Mr. Hutchinson thought that after showing symptoms of congenital syphilis in childhood patients usually enjoyed excellent subsequent health. He did not believe in transmission to the third generation and thought that these patients might marry without any risk. He was still of opinion that two years was long enough for a man to wait before he might marry without risk of transmitting the disease, but it was possible that the duration of transmissibility was longer in the case of women.

Dr. HENRY ASHBY (Manchester) spoke chiefly on affections of the brain. He showed specimens in which (1) microcephaly had been the result of arrest of development from syphilitic arterial disease, the brain after hardening weighing less than 4 oz.; and (2) a brain in which idiocy was produced by syphilitic meningo-encephalitis. Syphilis was, however, by no means a common cause of idiocy.

The discussion was continued by Dr. HUDSON (New Zealand), Dr. FINLAYSON (Glasgow), Dr. JOHN THOMSON (Edinburgh), Dr. SYMES (Dublin), Professor BAGINSKY (Berlin), Professor COMBY (Paris), Dr. TELFORD-SMITH (Lancaster), and Mr. J. HUTCHINSON, jun. (London).

The following papers were read:—

Mr. ROBERT JONES (Liverpool): On the Short Leg of Hip-joint Disease and its Treatment (with lantern demonstration).

Dr. JULES COMBY (Paris): On Moveable Kidney in Children (with lantern demonstration).

Professor BAGINSKY (Berlin): On Hospitalism and Atrophy of Children (with lantern demonstration).

Dr. F. E. BATTEN (London): On Diphtheritic Paralysis (with lantern demonstration).

Dr. G. F. STILL (London): On the Micro-organism of Simple Posterior Basic Meningitis in Infants.

Dr. G. A. SUTHERLAND (London) and Mr. WATSON CHEYNE (London): The Treatment of Hydrocephalus by Intracranial Drainage.

FRIDAY, JULY 29TH.

Rheumatic Heart Disease in Childhood.

Dr. DAVID LEES (London) opened a discussion on this subject. He drew particular attention to the occurrence of dilatation in all forms of rheumatic heart disease in children. In many long-standing cases it was to the dilatation rather than the valvular lesion that the impediments of the circulation were due. He showed from extensive clinical and post-mortem records that transient dilatation was frequently to be demonstrated in children suffering from chorea or from a first attack of rheumatism without endocarditis. Tracings were shown on the screen illustrating these points. The dilatation was not due to myocarditis secondary to the pericarditis, which was so frequently present in juvenile rheumatic heart disease, for it only occurred in rheumatic

cases and was not present in pneumococcal and tuberculous pericarditis. With reference to prognosis Dr. Lees held that this depended on the amount of permanent dilatation, but that if compensation was good and the child was guarded from subsequent attacks of rheumatism the prognosis was not very unfavourable. Successive attacks of rheumatism further damaged the heart and were the most serious danger in the future.

The following members took part in the discussion: Sir WILLIAM BROADBENT (London), Dr. EWART (London), Dr. W. OSLER (Baltimore, U.S.A.), Professor BAGINSKY (Berlin), Dr. FINLAYSON (Glasgow), Dr. THEODORE FISHER (Clifton), Dr. F. J. POYNTON (London), Dr. LINDSAY STEVEN (Glasgow), and Dr. SAMWAYS (Mentone). General agreement was expressed with Dr. Lees's conclusions except by Dr. Ewart, who held that the alterations in the area of cardiac dulness were due to ephemeral effusions rather than to dilatation.

The following papers were read:—

Dr. JAMES H. NICOLL (Glasgow): The Radical Cure of Spina Bifida treated by Open Operation.

Dr. R. MARTIN (Manchester): On the Effects of Tobacco Smoking in Children.

Dr. J. KAY TOMORY (Caithness): Note on a Case of Supernumerary Testicle.

Dr. JAMES CARMICHAEL (Edinburgh): Types of Infantile Pneumonia.

DERMATOLOGY.

WEDNESDAY, JULY 27TH.

This Section was opened under the presidency of Dr. W. A. JAMIESON (Edinburgh). There was a good attendance, including several foreigners of distinction, amongst whom may be mentioned Dr. P. G. Unna (Hamburg), Professor Boeck (Christiania), and Dr. Janowsky (Prague).

The PRESIDENT, in opening the Section, after welcoming the members and visitors, sketched the history of dermatology in Edinburgh from the time when Professor Hughes Bennett first had charge of special wards devoted to diseases of the skin in the old Royal Infirmary and referred to the great changes which had taken place in the treatment of skin diseases since then. The chief part of his address was devoted to the subject of

The Application of Rest in the Treatment of Diseases of the Skin.

He inquired what is meant by "rest," which really indicated comparative rest, and referred to the views of Horace and Sophocles. Why is rest necessary? formed the text of the next part. The very term "eruption" indicates disturbance of function and hence it calls for rest. Various states of unrest as regards the skin were referred to and the demand for rest in states of over-action of the glands and appendages of the skin. Ichthyosis, seborrhœa, and hyperidrosis were considered in this relation. Hyperæsthesia and pruritus served as illustrations of another group of irritative skin lesions. The inflammatory diseases provided exemplifications from another side, such as eczema, acne, &c. Exaggerated sensibility to light might be seen in such diseases as xeroderma pigmentosa, which needed rest and protection. Lastly, ailments due to parasitic agencies were dealt with and the different modes in which rest could be procured for various forms of irritability were described.

After the presidential address the Section adjourned to the Royal Infirmary, where a clinical meeting was held for the exhibition of patients and informal discussion of the cases. The cases, which were for the most part under the care of Dr. Jamieson or Dr. Norman Walker, consisted of the following. Xeroderma pigmentoum in a girl, aged six years, which was improving under a soothing ointment and a veil and other protective measures. A sister, two years younger, had lately been developing a few freckles which looked suspicious of the disease arising in her. Two cases of sclerodermia in young women under treatment by Unna's ointment of perchloride of mercury. In one of the cases this had been combined with massage. Another case of sclerodermia round the mouth had been under treatment for a whole year by potassium iodide, 5 gr. thrice daily, without improvement. Two of these cases were undoubted cases of sclerodermia and had the characteristic lilac border which had not spread; but Dr. UNNA (Hamburg), remarking on the case of scleroderma of the lip, thought it was a more localised disease, a kind of acne keloid—i.e., a fibroma around the hair follicles of the moustache. A case of that rare condition, infective angioma, or lupus lymphaticus of Hutchinson in a man, aged twenty-six years. About fourteen years ago, while practising gymnastics, he had noticed little reddish spots on the forearm. Ten years ago, when he first came to Dr. Jamieson, the eruption presented precisely the same appearance as now. The spots consisted of dilated capillaries situated on the flexor and extensor aspects of the arm. Microscopic examination showed them to consist of thrombi at the top of the dermal papillæ. The patient had suffered no inconvenience or subjective symptoms of any kind. A case of ulerythema sycosiforme on the beard and scalp in which the eruption consisted of a keloidal condition with baldness and pustules affecting the beard. A case of adenoma sebaceum in a lad, aged seventeen years, who had been under observation for many years, was combined as usual with arrested mental development. The treatment adopted had been repeated application of the thermo-cautery, doing a small area at a time. Very great improvement had taken place both in the skin and the mental condition. Two cases of dermatitis herpetiformis; the patients had suffered for eight or nine years from vesicles arranged in groups, leaving stains and pigmentation on the arms, trunk, and legs. Both were regarded as characteristic specimens of the disease. Three cases of a condition described as an unusual variety of lichen ruber planus (of Wilson) gave rise to considerable discussion. One of them, a man, aged fifty years, who had been affected for about eight years, presented some of the characters of the lichen ruber of Hebra, and in his case some of the spots had been excised and presented the typical appearance of that disease under the microscope. The other cases appeared to present earlier stages of the same condition, whatever it might be. All three presented a universal eruption and in the most severe case the entire integument presented a crimson appearance formed of red spots which had become confluent, with small spaces of what appeared to be atrophy between.

Dr. UNNA (Hamburg), remarking on these cases, thought that they corresponded with what he had described under the name parakeratosis variegata; the distribution of the rash, the crimson colour, and the ring-like appearance of some of the spots suggested this, but the small islets of atrophy did not correspond.

Professor BOECK (Christiania) confirmed this view. He had met with similar cases which could not be classed quite with lichen ruber. He thought the atrophy was more apparent than real by reason of the swelling of the affected skin leaving healthy areas depressed.

Dr. J. F. PAYNE (London) had seen cases like these and though he had included them provisionally under lichen planus he felt that they were something different as a whole, and though the anatomy might be the same as lichen planus it did not follow that they belonged to that group.

Mr. MALCOLM MORRIS (London) thought possibly these cases might be a kind of lichenification or they might be an early phase of mycosis fungoides. A slowly progressive inflammatory condition of the skin of this kind might go on to several other maladies.

Dr. RADCLIFFE CROCKER (London) believed that these cases might probably be a variety of lichenification. Certainly their characters and distribution did not exactly resemble lichen planus, but they might be a sub-variety of that disorder as Dr. Unna had suggested. On the other hand, they might be an early stage of mycosis fungoides, though in that condition there were acute exacerbations of lymphangitis, such as these cases had not exhibited, although the patches in one case were like the premycosic stage. He was inclined provisionally to put them in a separate group, such as Dr. Unna had suggested.

Dr. ALFRED EDDOWES (London) thought much could be learned from the history of such cases and he referred to a case of "gouty eczema" which much resembled one of the cases.

A case was exhibited for diagnosis in the person of a young woman, aged twenty-one years, in whom the disease had existed ever since she was six months old. The face, legs, and trunk, but especially the legs, presented raised hypertrophic patches closely set, more or less circular or ovoid in outline, of a livid purple hue, and presenting a warty surface. Microscopic examination of the lesion showed a great overgrowth of the mucous layer of skin—a sort of acanthosis. It presented an appearance of a tuberculous

lesion in some respects and Dr. T. D. SAVILL (London) suggested that it might be a widespread lupoid growth. The age of advent and the long duration were in keeping with this. A series of cases of lupus erythematosus was exhibited presenting types of the different varieties such as the telangiectatic form undergoing improvement, an example of the exanthematic type, and several cases illustrating the difficulty of coming to a conclusion between lupus erythematosus or lupus vulgaris. A case of vitiligo in a child, aged ten years, who had had the disease for seven years. A case of elephantiasis in a girl aged fifteen years. The disease began many years ago as lupus vulgaris of the foot; it had spread up the leg and by producing lymphatic obstruction it had resulted in elephantiasis. A case of mild degree of ichthyosis in a girl, aged thirteen years, was shown to illustrate the President's remarks on the application of rest. The girl had been washed daily with resorcin-salicylic soap, and a zinc and starch paste, and had made considerable improvement.

Dr. J. M. H. MCLEOD (Dundee) showed a case of Symmetrical Paronychia in a man aged seventy-five years.

Dr. J. MACDONALD (Cupar, Fife) brought up a case of Mycosis Fungoides in a man, aged forty years, which had come on during the last two years.

MEDICINE IN RELATION TO LIFE ASSURANCE.

WEDNESDAY, JULY 27TH.

Dr. CLAUD MUIRHEAD (Edinburgh) (the President of this Section) said: For the first time in the history of this Association a section has been instituted for the consideration of

Medicine in Relation to Life Assurance,

and I think our President deserves the congratulations of the members of the Association for the happy inspiration which prompted the formation of it. For to him, I believe, the idea is entirely due. And, indeed, when one considers the matter, it is rather a surprise that the formation of this Section has been delayed so long and that only now it is taking the position in the Association to which it is fairly entitled. Before proceeding further permit me to thank those gentlemen who have the arrangement of these matters in their hands for the honour which they have conferred upon me in inviting me to assume the position of first president of this new Section. We have also to congratulate ourselves on the good fortune of having many of the leading men in this city and elsewhere who are connected with insurance offices of the first rank conjoined with us in our deliberations and discussions on the subjects which are to be brought before us. The Faculty of Actuaries have also kindly responded to our invitation to give us the benefit of their rich experience, an experience which as it is commonly built up on a statistical basis is at once final and irrefutable. I think that from such a combination of persons, whose minds are daily engaged in weighing evidence, in close reasoning, and in deducing practical results from the premises submitted to them, in conjunction with the more practical experience of our own profession, there cannot fail to arise most valuable conclusions as the outcome of our conference, which will prove of much service in guiding us more equitably perhaps, and certainly more satisfactorily to adjudicate upon the merits of cases which in future may come before us as proposals for life assurance. And if this turn out to be a correct surmise it will prove the most ample justification for the formation of this new Section, and lay the foundation for its acceptance as a permanent branch of our Association. As you are all probably well aware the business of life assurance has of late years made enormous advances, and huge sums of money are now and again set aside in this way not merely for the original humane and beneficent purpose of securing to the widow and her children on the death of the head of the house some means by which they may be saved from the terror of actual poverty, but it is also largely used for commercial purposes and more lately as a method by which to meet the demands of the Chancellor of the Exchequer when he claims the estate duties. It may astonish some of you, as it certainly amazed me, to learn that in the United Kingdom the liabilities of life assurance companies amount to no less than £283,829,625. In the statistics given in the last Insurance Companies' Bluebook it is stated that nearly one-half of the population of the United Kingdom (exactly 42·70 per cent.)—men, women, and children of all ages—is insured in some form. Now what relation to this vast enterprise does the medical profession hold? What is our position in regard to life assurance? Apart from this purely personal relation to life assurance the medical profession is and has for long been associated with the companies in enabling them to make judicious selection of lives proposed for assurance. Not much before the commencement of this century were the services of a medical man asked for. On reference to the first proposals of the Scottish Widows Fund Society in 1814 I find that the applicant had to appear before a medical man and produce a certificate to this effect—I quote the words:—"I, ..., do hereby certify that ..... mentioned in the written declaration [application form] did appear before me this day, and that I have known ..... for ..... years, and that to the best of my knowledge he hath never been afflicted with gout, asthma, or any disease which tends to the shortening of life, and that I do believe ..... present state of health to be good and his habits of living not such as to endanger ..... life. Given at ..... this ..... of ....., 18.... Signature ..... Note appended: This, or any other form adapted to the case, to be used." This not very elaborate report continued in use up to the year 1830, and it will be observed that most attention was paid to the general appearance of good health without apparently any examination of the applicant whatever. It is curious to note how concerned the directors were at that early date to ascertain if the applicant had suffered from gout. It does not appear how they dealt with a case where the man confessed to having been afflicted with gout, but evidently they were impressed with the fact that gout tended to the shortening of life, a fact which was later lost sight of and has only recently been recognised as a condition calling for a surcharge on the premium and for which our friend Mr. Meikle will at a later stage bring forward ample justification. In the year 1830 these perfunctory reports were no longer considered satisfactory, and a certificate was required from the private medical attendant, to whom a series of specific questions were addressed with regard to the general state of health of the applicant, the nature of any serious illness, suspicion of any organic affection, any injury, his habits and constitution. This report was returned to the manager or *medical officer of the society*. About this time vouchers as to character and health were required from friends. This is apparently the first time the society deemed it prudent to retain the services of a physician to aid them in the sifting of cases. And in 1835 they went a stage further and required applicants to appear before their own medical adviser, as well as to produce answers to a more elaborate set of questions as to health and family history, addressed to the private medical attendant. A report from the agent and two private friends were also called for. It would thus appear that coincident with the advance in medical science and the spreading of the knowledge of more precise means of physical diagnosis the companies sought for and obtained more exact information as to the actual condition of proposers before admitting them to the benefits of their societies. And so the process of selection of the most healthy lives has gone on to this day, each company trying from time to time to improve upon the medical forms which are placed before their examiners, in order to obtain as complete and faithful an account of the proposer as possible, both as to his family and personal history, as well as to his physical condition at the moment of application. There exists a popular belief that all this care is of little use, and that the benefits of selection are entirely lost after the first five or six years. Acting on this assumption, companies have been started to accept lives without any medical examination. But, so far as I am aware, they have not proved a success, as one would naturally predicate. For to them all the rejected of other offices would as a matter of course repair, and the healthy would equally as a matter of course carefully shun such offices. But the fallacy of this has been repeatedly exposed and by none more effectively than by our two friends Dr. Sprague and Mr. Meikle of this city, who have shown that after elimination of the voluntary withdrawals the advantages of selection diminish at all ages with duration of the policies—rapidly at young ages, slowly at middle life, while in the older it probably never entirely disappears. Mr. Edgar Holden thus defines selection:—"Of any number of persons we know how many will attain a given age, how many will

die each year, and the mathematical value of the chance of any to attain his expectancy; but to know which ones will do so is impossible. To decide which are most likely to do so is selection." And it is to the credit of the medical profession that they by their careful examination of candidates for insurance largely contributed the data which enabled the actuaries to formulate their tables of expectation of life for healthy males and thus to estimate the mathematical value of the chance of man attaining his expectancy. But infinitely more difficult is the problem which is constantly submitted to us—viz., how equitably to assess the value of under-average lives, how sufficiently to protect the societies against loss, and how, at the same time, not to overcharge such candidates for assurance. Here we have no fixed and mathematically correct data by which to guide our decisions; we have no aggregated groups of persons suffering from the same disorder, though perhaps differing greatly in form, which might supply a basis by which to adjudicate upon the special case before us. And if the extra rates recommended by medical officers have, in the past, saved the offices from loss, I am bound to admit that this happy result has been arrived at without the aid of any scientific formula and by merely empirical methods. Now, gentlemen, it appears to me that one of the most important functions of this Section is by our discussions, our interchange of views, the communications brought before us, and by stimulating medical officers to investigate the records of their various companies, to endeavour to devise some more scientific—I shall not say more equitable—principles to guide us in our estimate of extra risks. Our good friends the actuaries have already calculated for us the after-life of groups of *healthy males;* and if we can only supply them with sufficient data by which to calculate by how much the expectation of life of unhealthy men is diminished in special groups of disease, they would quickly provide us with a table of the expectations of *unhealthy males*, and thus our task would be immensely simplified. I do not doubt that the discussions and papers already announced to be dealt with in this Section will do much to advance and stimulate this much-to-be-desired end, and in this way to perhaps extend the boon of life assurance to those who may for the present be reckoned to be outside its pale.

The Prognosis of Cardiac Disease in its Bearings upon Life Assurance.

Sir WILLIAM T. GAIRDNER (Glasgow) in opening the discussion said: It was from the experience of general practitioners that we might hope to get the best information as to the longevity of persons suffering from heart trouble, they having the best opportunity of following cases. As time went on heart disease had come to be regarded as of less serious import than formerly. He instanced two cases—that of a practitioner known to have suffered from rheumatic affection of the heart in youth who had had attacks of angina pectoris and who died between sixty and seventy years of age of a non-cardiac disease and that of a boy who in 1862 had a very loud systolic murmur all over the base of the heart and who became a keen sportsman and is now alive and, as far as a recent casual examination went, free from murmur. In this matter the insurance medical officer was in an entirely different position from the medical adviser. The former must be on the alert for any signs indicating a flaw in the constitution of the applicant, the latter on the look-out for signs which may make an encouraging prognosis justifiable. It is always difficult in heart cases to know how to deal with the applicant directly; it is painful to refuse the man, especially if you have to give reasons. It is best to put him off with hopes that at a future time he may be accepted. What are required at present most of all are data from which to judge of cardiac cases. Cardiac cases resolve themselves into eight classes. Class 1. Where there is a well-defined abnormality of doubtful significance; roughness of sounds or prolongation and various sounds heard over the right ventricle. These are apparently often pericardial and sometimes have reference to what are found in post-mortem examinations as white patches producing no symptoms during life. The question here arose whether cases of acute pericarditis ever so far resolved themselves as to be of no consequence. There was every reason to believe this was so. Class 2. Lesions involving organic changes without disturbance of cardiac functions discovered only after examination. Delay was the only course here admissible. They should be told they were more likely to be insurable later. Class 3. Lesions of limited significance belonging to senile changes. Such cases should be told to withdraw their application with reassuring remarks or be loaded up to an almost prohibitive extent. Class 4. Cases of organic lesions producing concomitant symptoms. These must be declined. Class 5. Lesions, probably functional, with no concomitant symptoms. For instance, irregularity of rhythm. Some people exhibit this from childhood. One case of this kind was instanced which had gone on very well for thirty years. Then there are cases when the heart beats become too rapid or too slow under emotion. Even when this occurs without emotion no important lesion is necessarily indicated. A too rapid pulse was probably less important on the whole than a too slow one. Sir William Gairdner as a boy had a pulse between 100 and 120. It is now 80 at the utmost and of good quality. A rather slow pulse would appear to be a sign of good health—say as low as 60. There are no data for judging of pulses lower than this. Sir William Gairdner had counted a pulse of 18, but its owner died suddenly at forty years of age in the pulpit. He had counted lower pulses in a patient who had entirely recovered. Then there was the tobacco heart and the senile heart. The former should be deferred and the latter should be told that he showed some signs of advancing age and should be declined. Class 6. Hearts with choreic murmurs. The nature of these was not yet entirely settled. Even if they get well they were organic. Choreic patients dying had always fringes on the valves. Class 7. Large or small hearts. Of these large hearts are usually considered of greater importance than small ones. Class 8. Angina or pseudo-angina. It is often impossible to distinguish between these. Angina in the family was difficult to estimate. A case was instanced of a lady, two of whose brothers had died suddenly, who took nine months to die from senile gangrene.

Dr. SYMES THOMPSON (London) said it was easy to decide cases of definite lesions but difficult when it was not clear that serious disease existed of the heart or other parts. It would appear that a pulse as low as 32 or even 28 could go on for many years if accompanied with a quiet disposition. Slowness of pulse would appear to make a high order of activity impossible. A case, however, on the other hand, was quoted of 26 to 28 in a man who could take his part on the mountains or grouse moors. The rapid heart was very difficulty to estimate, especially under examination, an ordinary heart often simulated a dilated palpitating heart.

Dr. TYSON (Folkestone) said the condition of the heart's walls and of the apex beat was of more importance than mere murmurs. It was impossible to have a healthy heart with an abnormal beat. He quoted in respect to slowness of pulse a group of eleven men with average pulse-rate of 30 whose average age was seventy years. He complained that patients who were told that they had murmurs seldom returned for re-examination. The rate of pulse sometimes fell in healthy women after confinement. He had difficulty in estimating the value of accentuated second sound in hard-worked men.

Mr. LOW (actuary) said he was struck with the frequency of the use of the expression "I don't know" in this debate. He did not remember seeing it in any reports of applicants. Statistics only would afford a definite conclusion. He thought a good way of dealing with proposers who were not accepted was to advise them to consult their own medical men; this was usually well received. Slow pulse he did not remember seeing on the records of any insurance office.

Mr. POINTON (Liverpool) quoted 150 cases of deaths from heart disease after chorea in which 149 had multiple but slight valvular disease.

Dr. MACFIE insisted on the difficulty of prognosticating mitral disease and advocated taking the applicant into confidence.

Dr. GLOVER LYON (London) advocated the formation of classes into which medically doubtful cases might be placed, heavily loaded, with the option of from time to time presenting themselves for re-examination. In case of the doubtful signs having cleared up the insurers might be placed amongst the ordinary raters.

Dr. JAMES RITCHIE (Edinburgh) mentioned the importance of age in estimating irregularity of pulse. He pointed out that the absence of slow pulse from insurance records might be explained by the excitement of examination causing acceleration of pulse.

Mr. EASTES (London) described some varieties of irregularity of heart caused by tea, coffee, and tobacco, and advocated deferment in these cases.

Sir WILLIAM GAIRDNER, in reply, said his experience did

not extend to anyone in ordinary health with a pulse under 50 or 60 or so. It would be well in cases when there was something abnormal, impossible to explain, to make a large addition, to be taken off at a future time if the case admitted of such a course; this would be an equitable way of meeting such cases. Aortic accentuation in a labouring man indicated over-exertion which if persisted in would shorten life. In telling applicants of their diseases the truth should never be departed from, but this should not be blurted out in a manner which would give an exaggerated notion to the applicant.

Does Evidence of Limited Family Vitality call for an Advanced Rate of Premium?

Dr. JAMES RITCHIE at the outset deprecated the custom of putting small extras on account of slight defects in family history. The inherent causes of death had a structural existence, and the same structure in different individuals had a different degree of vitality. This vitality was a complex quality. Decay is hereditary both in effect and time. It was pointed out that a large proportion of the early deaths in the office with which Dr. Ritchie was connected and which was founded twenty years ago, was amongst insurers one or both of whose parents had died fairly early. The significance of the death of the parents from similar diseases was shown by instances even when these diseases were not of the specific nature of consumption—for instance, diseases of the heart or blood-vessels, kidney disease, cancer, nervous diseases, diabetes, or alcoholism. In the case of a family history of consumption it often indicated a special vulnerability to diseases other than consumption. In estimating the vitality of a family it would appear that not much importance should be attached to death in infancy, the surviving members of the family often developing into robust subjects. The usual motive for insurance is important in this relation. Not infrequently a man as he advances in years feels a failure in his powers; if, then, his parents by an early decease give evidence of an early degeneration it makes it probable that a like failure may be in progress in the applicant. The principle the speaker wished to enforce was that if there be in any families evidence of impaired vitality, whether it be in consequence of early decay of vital organs or of the liability to succumb to infectious ailments, the risk is increased and should be covered by extra premium.

Sir WILLIAM GAIRDNER said that pathology tends to prove that we have underestimated the value of flaws in family history. The offices used not to make them a bar to insurance. There is now a tendency to underrate family history. In some cases the history of grandparents and even of great-grandparents might be valuable.

THURSDAY, JULY 28TH.

Dr. CLAUD MUIRHEAD, the President, being in the chair, a discussion on

Middle-ear Disease in Relation to Life Assurance

was opened by Dr. P. M'BRIDE (Edinburgh), President of the Laryngological Section, before a conjoint meeting of that Section and the Section of Medicine in relation to Life Assurance.

The PRESIDENT in a few introductory remarks said he was of opinion that too much was made of middle-ear disease in life assurance.

Dr. M'BRIDE said the subject was limited to consideration of chronic suppuration of the middle ear. Schwartze's clinic gave only 13 deaths out of 2032 cases, or 6·4 per 1000. These statistics can be relied upon as following through the greater part of the cases. Potletzer had recommended the refusal of all cases of suppurative middle-ear disease. This would appear to be too severe. Several points were of importance in this subject. The occurrence of pain should give rise to great suspicion. The presence of granulations or polypi should entail rejection, so also should necrosis, true cholesteatoma, or occlusion of the meatus from other causes when suppuration is present and when this condition is complicated with facial paralysis. In absence of this condition we must consider: (1) the perforation is of greater importance if it be small and high up; (2) the discharge—if this is copious and fetid the case must be declined; and (3) the social position is of great importance. A favourable sign was the following: a slight not fetid discharge, care being taken to find out by probing if this condition is only apparent and that deeper-seated mischief did not exist.

Dr. THOMAS BARR (Glasgow) said the Registrar-General's reports were not reliable as to deaths from ear disease and gave no information as to the mortality amongst otorrhœal subjects. Otorrhœa, too, usually occurred in subjects younger than the generality of assured lives. If treatment did not stop the discharge the case should be declined or rated up heavily. If treatment stopped the discharge the case should be passed even if a perforation of good position and size remained, also if after operation a dry cavity remained.

Dr. PRITCHARD (London) said statistics from foreign countries were of doubtful importance. The opinion of specialists was apt to be too lenient, as fatal cases seldom came under their care. Cases for rejection were cases of pyæmia or mastoid mischief, necrosis, caries, or granulation, collections of epithelium occluding the meatus, facial paralysis, also pain referred to about 1½ in. above the meatus as indicating mastoid mischief, tuberculous otorrhœa, or malignant disease. The addition of extras could not be done by rule. Some perforations were very serious, others could be taken without extras. The question of fœtor must be settled by passing a mop. As to the age of the patients a perforation occurring in a man between forty-five and fifty-five years of age, and especially after influenza, was very serious. So also was the occurrence of a large amount of fœtid discharge. The effect of treatment was of great importance. Uncomplicated cases might be taken in careful patients.

Mr. MARK HOVELL (London) pointed out the importance of the presence of exostosis blocking up the meatus.

Dr. MACKENZIE JOHNSTON (Edinburgh) said that even a simple perforation meant a hole in a patient's armour, though it might be a very small one. A simple perforation existing in a man over thirty years of age was of less importance than one in early life.

Dr. HERBERT TILLEY (London) called attention to the probability of some mischief being left behind after operation.

Mr. CRESSWELL BABER (Brighton) urged the difficulty of deciding upon a fair extra in these cases.

Dr. WILLIAM MUIR said that out of a large experience he had only known of one death from ear disease and he thought occasional slight discharge from an ear without any complication did not call for an extra.

Mr. LOW (actuary) said the small proportion of deaths registered from ear disease compared with other diseases was important. He thought the principle of every case being taken on its own merits was unsatisfactory, as no separate case is insurable.

Dr. GLOVER LYON said that as the extra risk from these cases as a whole was so small as to call for no extra it would be best to refer all cases to specialists, and decline only the more serious, accepting the others at ordinary rates.

Dr. RITCHIE said that those cases where only a slight discharge existed without complications need not be declined.

Mr. JAMES CHATHAM alluded to the necessity of appealing to the records of the offices.

A paper was read by Dr. JOHN PLAYFAIR (Edinburgh), written conjointly with Mr. J. WALLACE (actuary, North British and Mercantile), upon

The Bearing of Pregnancy upon Life Assurance.

The chief object of the paper was to show that the extras charged at present for pregnancies were quite inadequate. The Edinburgh Royal Maternity Hospital with an experience of ten and a half years and 10,038 cases and 87 deaths shows a high death-rate under twenty years of age, a minimum death-rate at ages ranging from twenty-five to twenty-nine years, and then an increasing rate. The death-rate for married alone is least at ages under twenty years and increases steadily with age. The mortality amongst multiparæ—low at twenty-five years of age—falls slightly at from thirty to thirty-four years, and then increases. The mortality of primiparæ is much higher at all ages than of multiparæ and increases more rapidly with age. Instead of, as at present, charging a fixed extra for all ages, this being for primiparæ double that for multiparæ, the following suggestions are made: (1) an extra according to age should be charged; (2) the extra for first pregnancy should be about three times that for subsequent ones; (3) a proposal for insurance from women aged thirty years and upwards should be delayed; and (4) a proposal for

insurance from pregnant women aged forty years or upwards should be delayed in all cases.

Mr. LOW raised the question whether confinements in maternity hospitals were comparable with those amongst insured lives.

Mr. MACANDLISH pointed out the necessity of inquiring carefully into the motives of insurance in pregnant women.

Mr. EASTES suggested that the advance in antiseptics might vitiate the statistics given for application to the present day.

TROPICAL DISEASES.

WEDNESDAY, JULY 27TH.

The room placed at the disposal of the newest section of the Association proved none too ample to accommodate the large number of members interested in tropical diseases. Professor Blanchard of Paris, Dr. Osler of Baltimore, U.S.A., and representatives of many British colonies and dependencies, and of the army, navy, and colonial services, evidenced interest in the subject by their earnest attention to the papers read and by taking part in the discussions.

The PRESIDENT (Dr. Patrick Manson, London) congratulated the Association upon taking cognisance of the requirements of some 6000 of our medical brethren living abroad whose interests were centred in diseases not met with in the United Kingdom. He stated that the institution of this section dealt with work which might be divided into three classes. Firstly, the affiliation of medical men directly interested in the diseases of warm climates; secondly, the education in tropical disease of practitioners before they went abroad to commence their profession; and thirdly, the study and discussion of the diseases of the tropics.

Brigade-Surgeon-Lieutenant CROMBIE, I.M.S., read a paper of considerable length upon the

Unclassified Fevers of the Tropics

and dwelt upon those of an anomalous character.

The following members joined in the discussion: Surgeon-Major BAKER, Captain HUGHES, Captain DAVIDSON, Brigade-Surgeon-Lieutenant-Colonel ARNOTT, and Surgeon-Lieutenant-Colonel THORNHILL, Dr. SAMBON (Rome), Dr. CHARLES (Rome), Dr. COUSLAND (Edinburgh), and Dr. CANTLIE (London). The general drift of opinion was in favour of recognising ulceration of the intestine as typical of typhoid fever and the recognition of the plasmodium as the test for fevers of a malarial nature. With these excluded, however, there were many fevers as yet unclassified which were peculiar to the tropics and which deserved the closest attention. The subject of ardent fever claimed considerable attention from all who took part in the discussion, and there was a distinct inclination to doubt the fact of infection playing a part in this form of disease. It is necessary to get information from even a wider field than India before authoritative statements can be made either one way or the other.

Dr. ANDREW DAVIDSON'S (Edinburgh) paper on

The Malarial Problem in its Epidemiological Aspects

was listened to with great interest. The fact of the inhabitants of Sweden being subject to outbreaks of malaria even as far north as 66° showed how widespread is the possibility of infection by the malarial parasite. Dr. Davidson also stated that even a temperature of 13° F. below zero was not incompatible with attacks of malaria. In temperate climates it was during spring that malaria chiefly showed itself.

Dr. MANSON read a short paper on

Appearance of Pigmentation in Lymphocytes in relation to the Diagnosis of Malaria.

Dr. Manson warned observers in the tropics against mistaking the normal for the adventitious pigmentation. According to Vincent[1] the phagocytic function, as regards the malarial parasite, is performed almost exclusively by mononucleated leucocytes. With this opinion, however, Metchnikoff disagrees and explicitly states that the lymphocytes are completely passive in this respect and never phagocytic. With Metchnikoff's statement Dr. Manson agreed and holds that the lymphocytic pigmentation described by Vincent and others is a normal or physiological condition to be met with in the blood of persons in good health in temperate climates.

[1] Annales de l'Institut Pasteur, Dec. 25th, 1897.

Dr. SAMBON read a paper on

Black-water Fever

as met with in Central and West Africa. He pointed out that this fever was met with in the Southern States of America, in Venezuela and Cuba, in Sicily, Java, and various parts of Asia. Dr. Sambon is of opinion that black-water fever is a specific non-malarial fever, although it is met with in districts where malaria is likely to occur. In the blood of persons suffering from melanuria crescents and other forms of the malarial parasite are to be met with, but in Dr. Sambon's opinion the diseases are not identical. Nor, on the other hand, is melanuria due to the exhibition of quinine. This opinion is rather firmly held, more especially by the New Orleans physicians, but no convincing proof has ever been brought forward to establish the dictum.

After the paper two members of the Church of Scotland Missionary Society testified to the enormous mortality caused by black-water fever more particularly in the neighbourhood of Blantyre (Africa).

The members of the Section present unanimously agreed to a resolution to the effect that the attention of the Foreign Office should be drawn to the high mortality amongst Europeans from black-water fever in Africa, and urged the Government to send experts to investigate the disease and to make suggestions as to its prevention.

Dr. THIN exhibited a Microscopic Specimen illustrating the

Parasites of the Pernicious Malarial Fevers of British Guiana.

Dr. THIN also read a paper on the

General Characteristics of Pernicious Fevers in British Guiana

and dealt exhaustively with the pathology of the disease. He also drew attention to a feature which is rare if not new—namely, two spores attacking and becoming incorporated in a single red blood corpuscle.

Major YARR, R.A.M.C., communicated a paper on

Malarial Affections of the Eye.

This little known and much-neglected subject was handled by Major Yarr in a paper which showed an intimate knowledge of the subject and is the most earnest attempt in British medical literature to call attention to what is frequently a serious disease. Malarial eye affections, according to Major Yarr, all originate in circulatory troubles and may be conveniently classified under the following headings: (1) neuritis; (2) retinal hæmorrhage; (3) retino-choroiditis; and (4) effusions in the vitreous. Repeated attacks of malaria constituted the usual antecedent, although the development of neuritis is not unknown in pernicious attacks. Photophobia, night-blindness, and supra-orbital pain are more or less constant. Of all symptoms, however, the variations in the visual acuity form the most characteristic. It is satisfactory to know that this loss of function is in most instances restored and the passage from well-nigh total blindness to normal vision in a few weeks is a gratifying result. Retinal hæmorrhages are met with in the course of malaria in two varieties—minute and large. Microscopic examination shows these retinal apoplexies in malaria to be due to infarcts of parasites followed by extravasation. Quinine amaurosis was referred to by Major Yarr. A slight degree of amaurosis with some amblyopia is frequently present in quininism without any alteration in the normal appearances, but in severe cases, with persistently contracted fields, pallor of the disc and thready vessels are found.

Surgeon-Major J. H. TULL-WALSH, I.M.S., dealt with

Clinical Aspects and Treatment of Malarial Fever

in a lengthy paper of considerable importance.

A paper by Surgeon-Captain W. J. BUCHANAN, I.M.S., gave an account of

Epidemic Cerebro-Spinal Fever in India,

with a clinical account of three cases. Surgeon-Captain Buchanan's work was conducted with great thoroughness and care. He made preparations of the purulent matter from the brain and spinal membranes, stained some six specimens with a watery solution of gentian violet and found in all a diplococcus within the pus cells answering in all particulars to that of the diplococcus intracellularis of Weichselbaum. The paper placed on record the history of

cerebro-spinal fever as met with in the gaols of Bengal and ended with the following remarks: "Two diseases—cerebro-spinal fever and Malta fever—have thus been rescued from the *cloaca maxima* of the remittents as seen in tropical countries. That yet another as yet undifferentiated fever of a continuous type exists is my firm belief, but so far the evidence in favour of this view is too indefinite to do more than allude to the belief here. That the disease here called cerebro-spinal fever, in accordance with the "Nomenclature of Diseases," is identical with the epidemic cerebro-spinal meningitis of continental and American writers is clear, but the diagnosis of isolated sporadic cases will always be doubtful without bacteriological examination."

THURSDAY, JULY 28TH.

Mr. CONOLLY NORMAN (Dublin) read a valuable paper on

Beri-beri in Temperate Climates.

His experience of the disease was gained in the Richmond County Asylum, Dublin, where he was superintendent. In 1894 an epidemic of what proved to be beri-beri attacked the inmates of the lunatic asylum of the institution. The disease disappeared in 1895, but during 1896–97 it recurred with great virulence. In all some 534 cases are recorded and 44 deaths. Mr. Conolly Norman recounted the symptoms met with and showed that they corresponded in every way with beri-beri as met with in tropical countries. He then proceeded to state that this disease was by no means confined to the tropics, but was known to have existed in North Germany, in England (Suffolk County Asylum), in Dublin, and in the States of Alabama and Arkansas, U.S.A. On the Newfoundland coast also it had been known for some time. Mr. Conolly Norman proceeded to discuss the cause, and after combating the rice and fish theory admitted that in the year 1894 the diet of the asylum was improved, amongst other articles, by the inclusion of dried ling, imported from Newfoundland most likely. Here was a loophole for stigmatising the diet, as Newfoundland was an infected district. One peculiar circumstance was that in England, Ireland, and America it was in lunatic asylums the disease occurred, and there seemed no explanation of the circumstance. It may have been that in asylums the people were watched more carefully and therefore the disease was readily recognised, but Mr. Norman pointed out that the number of cases under treatment were so numerous that had a similar occurrence taken place elsewhere attention must have been drawn to it. He agreed with Grimm that there was an initial fever and an exaggerated knee-jerk. The latter symptom soon passed off, leaving the usual paralytic phenomena. The question of parasitic infection was also discussed, but after careful investigation only negative results were obtained. No specific treatment was known; change of residence, however, was essential. A number of illustrative photographs were shown.—Dr. OSLER, Dr. MANSON, and Dr. CANTLIE joined in the discussion.—Dr. OSLER stated that cases of beri-beri were still met with amongst the Newfoundland fishermen, and that at the United States ports patients suffering from beri-beri were imported from Cuba.—Dr. MANSON believed that many cases of so-called peripheral neuritis in Britain were really beri-beri and that as the disease became better known no doubt what at present were obscure paralytic illnesses might prove to be beri-beri.

Dr. SANDWITH (Cairo) gave an account of pellagra as it occurred in Egypt. It was only in recent years that it had been recognised as existing in Egypt although no doubt it had existed previously. Dr. Sandwith claimed that it was the same disease as the Italian pellagra and that it arose from the same cause—diseased maize. The time of year during which it mostly prevailed was after the crops had been gathered, from November until March, when the new meal was consumed. Although the name pellagra meant "rough skin," still it was by no means a skin disease, but rather a general or blood disease which, commencing with erythema, goes on to hypertrophy and then atrophy of the exposed parts of the skin. It is accompanied by bald tongue, intense dyspeptic symptoms, loss of weight, and a mental and physical depression of marked intensity. Amongst other noticeable phenomena were pronounced backache and a localised deep-seated pain in the neighbourhood of the sixth dorsal vertebra. Many cases of pellagra end their days in the lunatic asylum, becoming melancholic, demented, or suicidal. Pathological evidence showed general emaciation, atrophy of most organs, and a sclerosis of Goll's column and the posterior pyramidal tract. In regard to treatment Dr. Sandwith recommended: rest, mixed diet, avoidance of even good maize, cod-liver oil fresh bone marrow, and zinc ointment for the skin.

Dr. SANDWITH also read a paper on Acute Dysentery. He advocated treatment by the sulphate of magnesia plan, and strongly urged the efficacy of an enema of sulphate of copper, 15 gr.; tincture of opium, 15 min.; starch, 1 oz.; and water to 2 pints.

Dr. OSLER (Baltimore) spoke of the benefit at times derived from rectal injections, but pointed out that the pain and exhaustion, sometimes induced, annulled its use in many cases. The great element in treatment seemed to be to keep the intestine clean, whether by rectal injections or by intestinal antiseptics administered by the mouth.

Dr. BENTLEY (Penang) advocated salol as a powerful agent in the treatment of acute dysentery.

Dr. OZANNE (British Guiana) gave it as his opinion that no two cases of dysentery required the same treatment, but that each case had to be considered separately.

Dr. PRENTICE (Central Africa) stated that in his experience ipecacuanha in large doses answered well in the part of Africa in which he resided.

Major DAVIDSON, R.A.M.C., considered that no one system of treatment was wholly efficacious at all times and that the first essential in the study of this disease was its pathology.

Brigade-Surgeon-Lieutenant-Colonel CROMBIE held that there were many cases of catarrh of the bowel with dysenteric looking stools which were not true dysentery and in these ipecacuanha was useless; but in cases of dysentery with ulceration extending as high as the cæcum ipecacuanha was most efficacious.

Sir JOSEPH EWART (Brighton) said that he was in India at the time when the paper written by Dr. Docker recommending the treatment of acute dysentery by large doses of ipecacuanha was commenced. It fell to his lot to compile the statistics of the European and native armies of India with a view to testing the results of the ipecacuanha treatment. The figures showed a remarkable reduction in the death-rate of the disease by the administration of this drug. Ipecacuanha, he considered, relieves congestion, diminishes peristalsis, and allows of rest to the injured mucous membrane. He also claimed, as one of the chief advantages gained by the exhibition of ipecacuanha, that sequelæ, such as chronic dysentery and liver abscess, were largely prevented.

Inspector-General TURNBULL, R.N., read a paper on Insanitary Environments the Cause of the Spread of Yellow Fever and the Bubonic Plague. From numerous sources, chiefly derived from naval medical reports, Inspector-General Turnbull argued that environment was the immediate cause of yellow fever, and that whenever improved sanitation supplanted a wholly insanitary state yellow fever disappeared. As an illustration of how environment acts the following instance was cited by Inspector-General Turnbull. H.M.S. *Bristol* at Sierra Leone on Dec. 28th and 29th, 1865, detailed a party of 112 men and 4 officers to unmoor and shift H.M. storeship *Isis*, a notoriously yellow fever infected ship. 38 cases of yellow fever resulted with 23 deaths; all were treated on board the *Bristol*, but no medical officer or attendant contracted the disease which was strictly confined to those who worked on board or visited the infected storeship *Isis*.

THE PATHOLOGICAL MUSEUM.

FIRST NOTICE.

The ordinary medical school museums contain in many instances admirable and varied specimens, but it is on occasions such as this that the opportunity arises for collecting a series in illustration of one topic, such, for instance, as was done at Edinburgh in connexion with cerebral tumours, injuries to the elbow-joint, and diseases of the appendix vermiformis. Since the Association met in London never has there been such an excellent collection of museum exhibits. Exhaustive and up to date in a high degree, this collection has been arranged with the greatest judgment and care and much praise is due to the energy and knowledge which Dr. Alexander Miles and Mr. C. W. Cathcart, under the chairmanship of Sir John Struthers, have brought to bear on their task. The exhibits are classified into six groups or series—educational, surgery and allied sections, medicine and allied sections, obstetrics and gynæcology, bacteriology and pathology, and drawings and photographs. It will be impossible to do justice to this exhibition in one notice so we propose to discuss the educational and surgical series

on this occasion, leaving the medical and other exhibits—which include a remarkable series of specimens of intracranial tumours—to be noticed hereafter.

NEW METHODS OF PREPARING CASTS.

One of the interesting features of this museum consisted of the fact that several new methods of making casts or models for educational or surgical purposes were introduced to the profession, and the results of several methods for the preservation of the colour in wet specimens were made known. For the new methods of modelling we are indebted chiefly to Mr. Cathcart (Edinburgh) and Dr. Peters (Toronto). The first-named uses new materials for the model and the last-named new material for the mould. Mr. Cathcart, to whose ingenuity is due one of the handiest and cheapest of the microtomes in general use, has employed as a basis for the casts three different compounds: 1. A mixture of pipeclay and glycerine in proportions to form the consistence of putty. A cast in plaster of Paris is first taken of the limb in the usual way and into the mould thus formed the pipeclay-glycerine compound is poured after being melted by gentle heat, and it is wonderful what a lifelike model is thus procured. Vermilion and other pigments can be used. 2. Papier-maché may also be used in place of the pipeclay mixture. For this process Robosal blotting-paper is torn in pieces, thoroughly softened with thick ordinary flour-and-water paste, and worked into the mould (previously covered with paraffin or vaselin) with the fingers or a dry brush, each piece overlapping the preceding one. 3. The gelatin compound simply consists of No. 1 gelatin mixed with a minimum of water to soften it and then glycerine is added ounce for ounce of hard gelatin. It forms an elastic material of lifelike consistence and appearance. Still experience makes us doubt whether the gelatin will not shrink in process of time; but we saw a model of a foot made by Dr. Miles some five or six years ago which had not contracted at all. All these three materials are very simple in their preparation and use and teachers will doubtless find them very useful. The gelatin models can be coloured with various pigments and the addition of a little oxide of zinc gives a truly lifelike representation of the human skin, as might be seen in a cast of the thorax taken in a case of dislocation of the sternal end of the clavicle.

Several very beautiful plaster-of-Paris models, made by Dr. Peters by an entirely original method, were exhibited. As a rule plaster-of-Paris casts only exhibit the gross outline of parts, but by this method the minutest details of the feathers of a bird, the veins of the back of the hand (which are generally emptied by the weight of the plaster when employed in the ordinary way as a mould), the viscera of a rabbit laid open, and all the smallest details can be seen. The novelty consists in making the mould of hard paraffin. The process is as follows. First, the parts are spread with a mixture of starch and alcohol, to which a trace of glycerine is added; then, by means of a special apparatus for melting hard paraffin wax, and ejecting it in the form of a spray while liquid, the whole is sprayed first with the melted paraffin and then with a mixture of paraffin and water. Over the top of this plaster of Paris is spread and pressed on to the outside. This forms a mould, the inner surface of which consists of hard paraffin which has taken all the fine details. It is removed in the usual way and wet plaster-of-Paris is spread or poured upon the inner surface so that a very perfect model results.

Among the educational series are specimens on a gigantic scale of the embryo and its development and some dissections of the latter.

Dr. Dawson Turner exhibited x ray photographs of brains, hearts, and kidneys, which had been injected with opaque material (? mercury) and thus the whole circulation in the organ could be seen at one time by means of an arrangement for binocular or stereoscopic vision.

PRESERVATION OF COLOUR IN WET SPECIMENS.

It has long been a desideratum to preserve the colour in wet pathological specimens. One method shown was that of Sir John Struthers, by means of glycerine and carbolic acid. The specimen is soaked in this and then simply laid in a glass case exposed to the air. An example of transposition of the viscera thus prepared in 1889 was exhibited by Dr. Harvey Littlejohn (Edinburgh) and it has in a great measure preserved its post-mortem colours. Mr. James Simpson exhibited some useful methods for mounting specimens on coloured glass, adjusting the label or a description cut out of the catalogue within the jar, methods of casting in gelatin, and preserving the colour of wet specimens. Dr. Shennan exhibited an excellent series of specimens to illustrate Joré's formalin method for preserving the colour of wet preparations. Kidneys seem specially adapted for this method, but some beautiful preparations of acute miliary tuberculosis, ulcers of the intestine, intraventricular hæmorrhage, and septic abscesses in the kidney prepared in June and July, 1897, prove that this is undoubtedly a most successful process. The wonderful way in which the natural appearance is preserved was to be seen in a series of exhibits by Dr. Littlejohn of 9 cases of cut-throat and 3 stomachs taken from cases of carbolic-acid poisoning. These specimens had simply been soaked in the formalin solution and then placed upon cotton-wool in a glass jar, at the bottom of which was a small quantity of glycerine and formalin to preserve the moisture. The jar was then loosely covered.

SURGICAL EXHIBITS.

A series of 24 vermiform appendices removed by Professor Annandale and 13 by Dr. Miles, all for inflammatory conditions, were interesting as showing once more the usual history of appendicitis and emphasising again the apparent uselessness of this little structure. The frequency with which cherry-stones, toothbrush bristles, and other foreign bodies lodge there is surprising. Six specimens of excision of the cæcum and colon were shown by Dr. F. M. Caird. All were for carcinoma and all recovered from the operation. Several are still living; some have died from other maladies. It is worthy of note—at a time when, as one of our facetious American colleagues once remarked, "Murphy's button is in everybody's mouth if it is not in his abdomen"—that an end-to-end or anastomosis operation was done in all of these cases without button or bobbin of any kind. This is a feature of the Edinburgh School.

The surgical exhibits were extremely numerous and interesting and we cannot mention them all, but a collection of over 60 cases of various injuries in or around the elbow-joint merit special notice. Nearly every kind of injury and disease in this region found a place. One lesson which they teach is this, that in resection of the joint after injury the bones should be more liberally removed than is generally done. The subject was under discussion in the Surgical Section and was reported in THE LANCET of July 30th, p. 294. A collection of 418 calculi removed from the bladder (404 by crushing and 14 by lithotomy) during 11 months in Hyderabad, Sind, exhibited by Surgeon-Major Richard Baker, show the extreme frequency with which this condition is met with in India. The cases from which they were taken have been analysed in the columns of THE LANCET. 36 skulls showing the extreme variation in the anatomy of the frontal sinuses in different ages, sexes, and races give the results of an investigation by Dr. Logan Turner. It is surprising what wide variations exist in size, shape, position, and symmetry of these cavities.

BACTERIOLOGY.

Dr. Sims Woodhead, an old Edinburgh student, now director of the conjoint laboratories in London, exhibited specimens illustrating his experimental inoculation of animals with tuberculosis, glanders, plague, anthrax, diphtheria, and pyogenic microbes. He also showed a beautifully prepared educational set of cultures of all the well-known micro-organisms and photographs of the same. Dr. Shennan and Dr. Muir exhibited similar specimens, altogether making a wonderfully complete series. We have mentioned the foregoing only as samples of this museum in its educational and surgical aspects. There are many others to which we would gladly have accorded space had it been possible. The medical and other exhibits will be noticed in a future number.

THE ANNUAL MUSEUM.

(Continued from page 304).

I.—DRUGS—*(Continued)*.

SANOSE is the name given to a compound of casein (80 per cent.) and albumose (120 per cent.). It was recently the subject of analytical notice in our columns. There can be little doubt of its high nourishing power. Together with this interesting substance Messrs. A. and M. Zimmerman (9 and 10, St. Mary-at Hill) showed specimens of eucain

hydrochloride (Schering), piperazine, urotropine, and Kalle and Co.'s orexin hydrochlor, orexin being a useful stomachic, stimulating the acid secretion and muscular coats of the stomach. Messrs. Alfred Bishop and Sons (48, Spelman-street, Mile End New Town, E.) occupied with their well-known granular effervescent preparations a well-planned stall. The effervescent compressed tablets known as "varalettes" are worthy of mention as presenting in a very convenient form many of the drugs employed in the treatment of gout, such as lithia and piperazine, in an effervescent and agreeable form. There were some very elegant specimens of pharmacy on the tastefully-arranged stall of Mr. John T. Coats (105, 107, Broughton-street, Edinburgh). Amongst these may be mentioned a carefully-prepared petroleum cream with the hypophosphites and glycerites (solutions of medicaments in glycerine), as, for example, hypophosphite of lime in glycerine, iodide of iron, and so on. Novelties might be expected on the stall of the Elberfeld Fabriken Co. (19, St. Dunstan's-hill), and as a matter of fact the following were submitted for inspection: iron-somatose for chlorosis and anæmia, milk-somatose, a compound of albumose with milk proteids, protargol, a silver albumen compound of value in gonorrhœa, and, lastly, iodo-thyrine, the active principle of the thyroid gland. "Sol iodi" was a preparation of interest shown by Messrs. Brooks and Co. (136, Lower Baggot-street, Dublin), which, while not causing irritation or vesication, is freely absorbed by the skin; it has been employed with excellent results, it is said, in the treatment of indurated glands and swollen joints.

II.—FOODS AND FOOD PRODUCTS.

Special foods and food products proved to be an important feature of the exhibition and it was a section which attracted considerable interest. Enormous progress has been made of late years in the preparation of special foods, more particularly of diabetic foods, infant foods, predigested foods, concentrated meat foods, and so on, all of which have a special interest for the medical practitioner. It is remarkable how in regard to taste and appearance certain articles are now made to resemble ordinary food, at the same time providing an article of diet suited to special conditions. For example, the starchless and sugarless foods for the diabetic are now so cleverly prepared as to be hardly distinguishable from the ordinary farinaceous substances. At least, such is the impression gained, for instance, from an inspection of Messrs. Callard and Co.'s exhibit (65, Regent-street, W.). Here was displayed a wonderful variety of foods, bread, biscuits, cakes, savoury sandwiches, all of which by the iodine test showed no starch and yet were palatable and afforded no evidence in regard to taste and appearance that starch and sugar were absent ingredients. Similarly, G. Van Abbott and Sons (6, Duke-street Mansions, Grosvenor-road, W.) had a stall crowded with foods suitable for the diabetic, dyspeptic and invalid. The exhibit included "dietetic bran biscuits," "Kalos" biscuits for obesity, gluten bread, soya flour biscuits and bread, hypophosphite of lime biscuits, digestive biscuits. The collection was simply replete with foods for special purposes. There were some excellent innovations in the same direction in the exhibit of Mr. Robert McVitie (23, 24, and 25, Queensferry-street, Edinburgh). Amongst them may be mentioned peptonised bread, gluten and almond rolls, imitation oatcake containing bran and almond, cocoanut almond, gluten and bran loaves and rolls. A food of undoubted merit is Nutroa food (Nutroa, Ltd., 54, Chiswell-street, E.C.). It contains active diastase, so that in the course of preparation the starch is largely converted into dextrin and maltose. In other respects it presents a well-balanced composition containing fat, carbohydrates and proteids in satisfactory proportions. "Albene" is described as a pure and highly-refined vegetable fat. Examples of its many applications were given at the stall of Messrs. Broomfield and Co. (83, Upper Thames-street, E.C.). It seems an excellent substitute for butter in cookery, it keeps sweet, and is especially good for frying purposes. Albene is used also as an ointment. Close by there were the great number of specialities of the Bovril Company (30, Farringdon-street, E.C.), who were the pioneers in enabling the public to obtain at refreshment bars a good, cheap, and palatable nutrient and stimulant. The exhibit included the special emergency foods similar to those prepared for the Nansen, Jackson-Harmsworth, and similar expeditions. Under the section of foods may be included the excellent malt products of the Distillers' Company, Limited, Edinburgh. As is pointed out the company are large buyers of grain and in the preparation of Malt Extract great care is exercised to employ only the finest barley. Besides the powerfully active Malt Extract they also make a good compound of malt and cod-liver oil. A comparatively new food product is "Protene," of the Protene Company, Ltd. (36, Welbeck-street, Cavendish-square, W.). It is essentially proteid prepared from milk and may be used very profitably for enriching certain foods. Protene is soluble in hot and cold water and is practically tasteless. It contains the mineral salts (chiefly phosphates) of milk. It is a powerful nitrogenous food.

Cocoa was represented by two well-known makers. Messrs. Cadbury Brothers (Bourneville) had a well-arranged stall in which their pure cocoa was displayed in packets and cases and many visitors were glad of the opportunity of partaking of the refreshing and nutritious cup. A special feature of the cocoa of Messrs. Rothwell (Wigan) is the small proportion of indigestible fat which it contains, as we have already pointed out in our analytical columns, while solubility is none the less an important property of this pure preparation. We have already alluded to the fine pharmaceutical preparations of Messrs. Parke, Davis, and Co., (21, North Audley-street, W.), and the exhibit included the food products associated with the name of Mosquera. These are not mere meat extracts but contain the sustaining and nourishing constituents derived from meat as represented in peptone, albumen, and fibrin. The beef jelly contains the fibrin in a peptonised state, effected by the digestive ferment of pineapple juice. It contains also the stimulating extractives of beef. The beef meal (Mosquera) is a predigested powdered meat and is a very highly concentrated and powerful meat food. Analyses have shown the nutritive power of Mosquera's beef preparations. Lipton's fluid beef and extract of beef have so recently been the subject of analysis and report in THE LANCET Laboratory as to need no further comment. The stall was well arranged and the visitors were offered the opportunity of making practical inquiry into the merits of both preparations in a cup of beef-tea or soup. A very useful departure has been made by the Valentine Extract Company, Ltd. (St. George's House, Eastcheap, E.C.) in enclosing meat essence in capsules of various sizes. Consequently upon not carrying the concentration of the extract to excess the flavour is particularly good. The "valtine" globules are very handy for preparing soup or beef-tea. They contain no flavouring materials, these being put up separately in the form of "peloids." Hovis bread is a very good example of the attention which has of late years been directed to this important branch of dietetics. As is well known Hovis flour contains the wheat germ, with the result that it produces a highly nutritive and palatable bread. The stall of the Hovis Company (Hovis Flour Mills, Macclesfield) was an imposing one and in a commanding position. An important food adjunct is Cerebos Salt which is a great improvement on ordinary table salt. It is a fine dry powder enriched with a certain proportion of phosphatic salts. This company (Cerebos, Ltd., Newcastle and London) also exhibited Pepsalia, a refined table salt containing a digestive agent. Messrs. Carnrick & Co. exhibited a fine series of food products, including their liquid and beef peptonoids, the former being also combined with erythroxylon coca. They are each and all excellent nutrients consisting of digested beef, milk, and gluten. The addition of coca-leaf to the preparation contributes, of course, tonic properties. The soluble food for infants is also a very successful preparation, being made from cow's milk, dextrinised wheat flour, and malted barley. The composition of the Allenburys foods for infants (Allen and Hanbury, Plough-court, Lombard-street) is based on a knowledge of physiological requirements, as we have previously shown, and the evidence of experience justifies the claims made in regard to them. They consist of No. 1, No. 2, and No. 3, each adapted to the various stages from birth upwards in infant life. The widely known specialities of Messrs. Brand and Co., Ltd. (11, Little Stanhope-street, Mayfair), were well represented. The beef, mutton, veal, and chicken peptones call especially for notice as admirably adapted to the wants of invalids and others suffering from enfeebled digestive function. Messrs. Fairchild Bros. and Foster (Snow-hill-buildings, E.C.) have long been honourably associated with "digestive products," and quite recently we have placed on record the results of some satisfactory trials

which we have made in THE LANCET Laboratory of "panopepton," a predigested beef and wheat preparation, "pepsencia," a clear palatable solution of the active digestive agents of the gastric glands, and "peptogenic milk powder," for the extemporaneous preparation of fresh humanised milk. Besides these there were exhibited pepsin in scales, glycerinum pepticum, and the zymine tabloids and peptonising tubes and trypsin, for the excellence of all of which the firm is well known. Amongst other prepared cereal foods was Mellin's food (Marlborough Works, Stafford-street, Peckham, S.E.), which contains a large proportion of maltose and dextrin as the result of the action of diastase on the cereal grain. When combined with fresh cow's milk the preparation is known as lacto-glycose. In addition to these were Mellin's food biscuits, containing 50 per cent. of the food with wheaten flour; and Mellin's cod-liver oil emulsion free from alkali, and a permanent cream-like emulsion. Concentrated milks were represented at the stall of the Anglo-Swiss Condensed Milk Co. (10, Mark-lane, E.C.), who have done a great deal towards perfecting this product and keeping it up to a satisfactory standard of chemical and physiological composition; and by Henri Nestlé (48, Cannon-street, E.C.), who claims for his Swiss milk that it is the richest in cream. Both sweetened and unsweetened products were shown. Vimbos fluid beef (Vimbos, Ltd., 130, Queen Victoria-street, E.C.) maintains its character and keeps satisfactory pace with its powerful competitors. Its flavour is pleasantly beefy and it serves unquestionably as a powerful meat food. The exhibit included also Vimbos lozenges, which are said to be free from gelatin and contain finely divided muscular fibre. One of the first dry malted milk preparations was Horlick food, which is composed of the soluble portions of wheat and barley combined with fresh cow's milk and evaporated and dried to a crisp mass. The stall of the company (Horlick and Co., 34, Farringdon-road, E.C.) was tastefully arranged. Lastly, meat preparations formed a feature of the exhibit of Messrs. Armour and Co.'s (59, Tooley-street, S.E.), whom we have mentioned in another section in connexion with their preparations of animal substances. The extract of beef is a concentrated preparation, one part representing forty parts by weight of lean beef. It is reduced *in vacuo* by gentle heat. It retains the pleasant beefy flavour of the fresh meat unimpaired. "Vigoral" is prepared in a similar way, but it contains more albuminous constituents as well as the muscular fibre of beef. It is thus a powerfnl nutrient as well as invigorant.

Medical News.

UNIVERSITY OF LONDON.—The following candidates were successful at the intermediate examination in Medicine in July:—

EXAMINATION FOR HONOURS.

Anatomy.—First class: Thomas Copeland Savage (exhibition and a gold medal), University College. Second class: Sidney Herbert Bown, University College. Third class: Walter Fedde Fedden, St. George's Hospital; and Alec Leslie Matthews and Alfred Bertram Soltau, London Hospital.

Physiology and Histology.—First class: Arthur Edmunds, B.Sc. (exhibition and a gold medal), King's College; and William Henry Wynn, B.Sc. (gold medal), Mason University College. Second class: Julius Meyer Bernstein, Owens College; Arthur Eastwood, Cambridge University and Owens College; and Alfred Bertram Soltau, London Hospital. Third class: William Osborne Greenwood, Yorkshire College; and Stanley Hodgson, Guy's Hospital.

Organic Chemistry.—Second class: Howard Welles Reynolds, University College.

Materia Medica and Pharmaceutical Chemistry.—First class: Arthur Eastwood (exhibition and gold medal), Cambridge University and Owens College; Arthur Edmunds, King's College; and Oskar Cameron Gruner, Owens College. Second class: Jas. Fredk. Edmund Bridger and Arthur Falconer Hayden, St. Mary's Hospital; William Payne, Westminster Hospital; and Alfred Bertram Soltau, London Hospital. Third class: Thos. Henry Bourne Dobson, Owens College; and Friedrich Gröne, St. Bartholomew's Hospital.

PASS LIST.

Entire Examination.

First Division.—Hermann Balean, London Hospital; Frederick Charles Carlé, King's College; and Florence Elizabeth Willey, B.Sc., London School of Medicine for Women.

Second Division.—Samuel Herbert Lee Abbott, Oxford University; Ernest Gilbert Bark, Mason University College; Felix Anthony Boissière, King's College; Sidney Bree, University College; Charles Hildred Brolribb, St. Mary's Hospital; Amy Jane Burgess, London School of Medicine for Women; William James Butcher, Owens College; Frank Challans, London Hospital; Katherine Chamberlain, London School of Medicine and Royal Free Hospital; Geoffrey Clarke, Owens College; Ernest Langsford Clay, Mason University College; Alfred Coleridge, University College, Bristol; Hector Alfred Colwell, St. Bartholomew's Hospital; Walter Robert Dunstan, London Hospital; Benjamin Gregory Fiddian, University College, Cardiff; Frederick Goulburn Gibson, Guy's Hospital; Joseph Strickland Goodall, Middlesex Hospital; Herbert Hallilay, Westminster Hospital; John Abbott B. Hammond, Guy's Hospital; Charles Dainty Hatrick and Lionel Gordon Hopkins, University College; John Frederick Jennings and Alfred Ernest Jones, University College, Cardiff; Helena Gertrude Jones, London School of Medicine and Royal Free Hospital; Ernest William Julius Ladell and Edward Vaughan Lindsey, St. Bartholomew's Hospital; John Wishart Little, St. Thomas's Hospital; John Allden Lloyd, St. Bartholomew's Hospital; Charles Alfred March, London Hospital; Zebulon Mennell and Robert Ellis Roberts, B.Sc., St. Thomas's Hospital; Ellen Mary Sharp, London School of Medicine and Royal Free Hospital; Charles Cecil Connock Shaw, St. Mary's Hospital; Harold Weightman Sinclair and Hugh Stannus Stannus, St. Thomas's Hospital; Claude Tessier, Guy's Hospital; Arthur Hitchings Thomas, University College, Cardiff; Kenneth Vincent Trutshaw, Guy's Hospital; Herbert Septimus Ward, University College, Cardiff; Frederick Norman White, St. Bartholomew's Hospital; Alfred Carleton Williams, King's College; Arthur Gordon Wilson, Owens College and Manchester Royal Infirmary; and Edith Louisa Young, London School of Medicine and Royal Free Hospital.

Excluding Physiology.

Second Division.—Edward Walter Bain, London Hospital; Robert Macpherson Barron and Frederick Alexander Beattie, Guy's Hospital; Francis Joseph Birks, University College, Sheffield; John Dell Bridger, Guy's Hospital; Adrian Caddy, St. George's Hospital; Norman Carpmael, St. Thomas's Hospital; David Ellis, London Hospital; David Forsyth, Guy's Hospital; Sydney Balch Green, St. Bartholomew's Hospital; Arthur Charles Haslam, St. Thomas's Hospital; Robert Archer Lloyd and Ernest Charles Mackay, St. Bartholomew's Hospital; Thomas Arnold Matthews, Sidney James Ormond, Alan Carpmael Ransford, and Morgan James Rees, Guy's Hospital; Charles Haldane Denny Robbs and James John Sheat Scrase, St. Bartholomew's Hospital; Douglas Wilberforce Smith, Edinburgh University and School of Medicine; James Henry Stormont, Mason College; and Arthur Stanley Woodwark, St. Bartholomew's Hospital.

Physiology only.

Second Division.—Noel Charles Beaumont, St. Bartholomew's Hospital; Anthony Birch, St. Mary's Hospital; Robert Harrison Birtwell, B.A., London Hospital; Allen Bathurst Brown, St. Bartholomew's Hospital; William Collings Dawson, Mason University College; Alice Debenham, London School of Medicine for Women; Edward Percy Hughes Dudley, St. Bartholomew's Hospital; Alexander Fraser, Guy's Hospital; David Thomas Cadvan Jones, University College; Ernest Williams Jones, Mason University College; Elizabeth Knight, London School of Medicine for Women; John Tyley M. McDougall, Arthur Moon, and Daniel Leigh Morgan, Guy's Hospital; Eugene Michael Niall and Thomas Massey Pearce, St. Bartholomew's Hospital; Mary Elizabeth Phillips, University College, Cardiff, and Royal Free Hospital; Mary Ariel Stewart, London School of Medicine for Women; Ernest Wethered, St. Bartholomew's Hospital; Percy Walter White, Bristol Medical School; and Gisela Wilmersdoerffer, London School of Medicine for Women.

THE VICTORIA UNIVERSITY.—In July the following candidates were successful in the subjects indicated:—

FACULTY OF MEDICINE.

First Examination.

Part II. Biology.—J. W. Anderton and J. H. Bateson, Owens College; J. P. Bligh, University College; L. R. Braithwaite, Yorkshire College; Walter Briggs, C. H. Bromhall, and G. H. Brown, Owens College; Stanley Brown, University College; Thomas Brown, Yorkshire College; John Brunskill, Owens College; Alexander Burkhard and L. T. Chadwick, Yorkshire College; A. G. Christian and W. E. Cooke, University College; E. H. Cox, Owens College; E. H. Crawley, Yorkshire College; J. A. Davenport and A. J. Edmunds, Owens College; Douglas Elder, University College; A. H. Gregson, Owens College; H. E. Heapy, University College; E. W. Henstock, Benjamin Herald, G. R. Hitchin, C. H. Hopwood, Arthur Howard, Ernest Hulme, J. R. Hutchinson, Hamilton Irving, and A. E. Johnson, Owens College; J. A. Johnson, University College; J. A. Jones, Owens College; G. W. N. Joseph and R. E. Knowles, University College; F. H. Lacey, Owens College; R. G. M. Ladell, Yorkshire College; A. W. Latham, Owens College; George Laurence, University College; G. H. Leigh, Owens College; J. T. Lloyd, University College; J. A. Longley, Yorkshire College; Joseph Longworth and T. H. Lund, Owens College; J. F. McCann, University College; Harry Maffin, Yorkshire College; H. E. Moore and J. H. Nichol, Owens College; A. H. Radcliffe, Yorkshire College; W. E. Rothwell, J. A. C. Roy, S. H. Ryan, and F. W. Schofield, Owens College; J. O. Sergeant, Yorkshire College; J. M. Skinner, Owens College; P. K. Steele, Frank Sugden, and Bertram Suggit, Yorkshire College; A. F. Thompson and Leonard Thorp, Owens College; A. B. S. Todd, Yorkshire College; A. E. Townley, F. E. Tylecote, and David Walker, Owens College; G. F. C. Walker, University College; S. A. Winstanley and T. B. Wolstenholme, Owens College; H. F. Woolfenden, University College; and W. S. Wrigley, Owens College.

Second Examination.

A. Anatomy and Physiology.—M. B. Arnold, Owens College; J. H. Billing, C. W. Budden, and Robert Burnet, University College; Daniel Cowin, C. W. Crawshaw, R. F. Ferris, and F. H. Flack, Owens College; A. H. B. Fletcher and R. T. Forster, Yorkshire College; Walter Garstang, W. D. Hamer, E. C. Hulme, and W. C. Johnson, Owens College; R. J. Jones, University College; H. S. Lister and William Parker, Owens College; Percival Pollard,

Yorkshire College; Albert Ramsbottom, Owens College; E. C. Roberts and E. E. Roberts, University College; C. W. S. Saberton, W. R. N. Smithard, J. H. Stephens, and George Taylor, Owens College; Ernest Tinker, Yorkshire College; George Unsworth, J. W. Watson, and H. W. Whiteley, Owens College; S. C. Wilkinson, Yorkshire College; and H. M. Williamson, Owens College.

B. Materia Medica and Pharmacy.—John Acomb, Yorkshire College; D. M. Alexander, University College; F. H. S. Ashworth, Owens College; H. M. Berry and J. H. Billing, University College; G. G. Buckley, Owens College; R. N. Butterworth and W. H. Canter, Yorkshire College; J. B. Cook, J. F. Corson, W. J. Cox, and E. N. Cunliffe, Owens College; S. W. Davies, University College; Tom Eastham, D. J. Ferris, R. B. Fletcher, J. E. Floyd, and F. W. Gatenby, Owens College; G. W. Gelderd and V. J. Glover, University College; P. H. Green, Godfrey Heathcote, Rowland Heathcote, James Hindshaw, and W. S. Holmes, Owens College; A. R. Jackson, University College; S. J. C. Johnson, Owens College; C. O. Jones and W. G. Lloyd, University College; W. L. Maccormac, Yorkshire College; Charles Mackey, Owens College; A. F. Martin, C. T. Matthews, and R. V. A. Mosley, Yorkshire College; J. S. W. Nuttall, University College; T. F. Okell, Owens College; W. V. Pegler and Sydney Platts, Yorkshire College; H. H. Rayner and Arthur Richmond, Owens College; Edwin Saville, Yorkshire College; F. R. Sawdon, G. H. Shaw, W. R. N. Smithard, and H. G. Tansley, Owens College; J. C. Teasdale and Ernest Tinker, Yorkshire College; and H. C. Waterhouse, Alwyn Wharton, B. M. Wilson, and J. G. Woolham, Owens College.

Final Examination.

Part I.—G. P. Alderson, University College; T. P. Allen, Owens College; W. J. W. Anderson and J. D. Andrews, Yorkshire College; H. N. Bridge and J. P. Brown, Owens College; P. A. Browne and J. S. Byrne, University College; H. H. Bywater, A. H. Capamagian, Walter Crabtree, and C. H. Dawson, Owens College; R. J. Ewart, University College; E. W. Falconer, Owens College; C. H. Ferguson and H. M. Fletcher, University College; Charles Garner and Archer Greenwood, Owens College; C. H. Greenwood and H. C. R. Hime, Yorkshire College; J. C. Hindley, Owens College; J. A. Howard, University College; W. A. Illingworth, Hugh Lett, and E. O. Libbey, Yorkshire College; C. J. N. Longridge, Owens College; J. W. Miller, University College; Joseph Moreton and F. A. Morrison, Owens College; Armitage Morton, Yorkshire College; A. H. Priestley, A. E. Rayner, and T. E. Regan, Owens College; J. E. H. Scott, Yorkshire College; Harry Scholefield, C. E. Silvester, and Harold Snape, Owens College; T. J. Thomas and Harry West, University College; and A. G. Wilkins and J. D. Windle, Owens College.

Part II.—D. A. Alexander and J. W. Anderson, University College; Godfrey Carter, Harry Dunk, and Arthur Firth, Yorkshire College; †E. W. Floyd and J. P. H. Greenhalgh, Owens College; H. F. Hart, University College; E. M. Hime, Yorkshire College; Frederic Hoyle, Owens College; F. W. Inman, University College; Alfred Lomas and H. H. McNabb, Owens College; W. P. Oyston, Yorkshire College; Stanley Pickering, William Sankey, and A. T. Sissons, Owens College; †Ambrose Spong, Harry Stansfield, *Edward Trotter, and †Edward Turton, Yorkshire College; G. C. Walker, University College; T. H. Wignall, Owens College; Joshua Williamson, Yorkshire College; and J. D. Windle, Owens College.

* Awarded first-class honours. † Awarded second-class honours.

FACULTY OF SCIENCE.

Intermediate Examination.—F. W. Hunt, Yorks; and Arthur Law and Maude E. Young, University College.

Diploma in Public Health.—A. E. Brindley, David Ligat, R. W. Marsden, G. E. Scholefield, and H. A. Scott.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

—At the July conjoint examinations of the three Scottish medical colleges held in Glasgow the following candidates passed the respective examinations:—

First Examination, Four Years' Course.—Angus Macleod, Stornoway; Thomas Taylor Smith, Halifax; Ernest James Nichols, Northamptonshire; and John Lindsay, Edinburgh.

First Examination, Five Years' Course.—Donald Grant Dingwall, Aultbea, Ross-shire (with distinction); John O'Regan, Mitchelstown; William Bates, Partick; Harry Anderson Lunn, Jedburgh (with distinction); Walter Paton Scott, Glasgow; James Henderson Milne, Glasgow; Andrew Young, Langholm (with distinction); George Logan Clark, Glasgow (with distinction); Robert John Roberts, Bala; Richard Augustine Hegarty, Kinsale; Timothy Foley, Killeagh, co. Cork; Stanley Lister George Donald Maclaine, Mountainash, Glamorgan; David Roberts Williams, Borth, Portmadoc; and Thomas Ernest Harty, Cork.

Second Examination, Four Years' Course.—John Francis Dwyer, Cork; Charles Spencer Buck, London; John Wiglesworth, Liverpool; James Herbert Spray, Leeds; Nelson Johnstone, Dunmanway; Joseph Vincent Usher Somers, Tipperary; and Thomas Alexander Chalmers, Ayrshire.

Second Examination, Five Years' Course.—Albert Edward Ward, Partick; George Kee, Greenock; George Johnstone Campbell, Greenock; Frank Hannah, Lancashire; Geo. Russell Jarvie, Cambuslang (with distinction); Robert Wardlaw, Crofthead; John Allan, Glasgow; Henry Ayrton Chaplin, London; Donald Duff, Glasgow (with distinction); Archibald Macqueen, North Wales; William Hendry Ferguson, Yorkshire; Eyre William Powell, Mount Prospect; John Thomson Malloch, Glasgow; Charlotte M'Crea, Glasgow; Ernest George Dryden Benson, Durham; Harold Ruby Parkinson, Manchester; Jane Mary Louisa Foley, County Cork; and Daniel Michael Donovan, Cork.

Third Examination.—Rupert Edward Moorhead, Mauritius; Thomas Blane Adam, Glasgow; Robert Elwell Nalsh, Devonport; George Brownlie M'Kendrick, Wishaw; Evelyn John Evatt, Liverpool; John Thomas Bradley, County Clare; Thomas Stratford Logan, Yorkshire; Frederick William Newcombe, Victoria, Australia; William Patullo, Alyth; Timothy Joseph O'Donovan, Dunmanway; John George Grant, London; and Richard Nason Woodley, County Cork.

Final Examination (and admitted Licentiates).—David Campbell, Taynuilt; Arthur Bulleid, Glastonbury; John Glen Parker, Meikleriggs, Paisley; Thomas Buchanan Whitelaw, Glasgow; Samuel Vernon Robinson, Ulverston; Reginald Storrs, Doncaster; Richard Maddern Powell, Liverpool; John Dick, Greenock; John Joseph Aloysius Sherry, Dublin; Harold Chaffer, Todmorden; David Richard Edwards, South Wales; Henry Arthur Marquis, Padiham; William Arthur Clayton, Manchester; Henry Stewart Anderson, Dunmurry, County Antrim; Claud Herbert Lucien Bellot, Edinburgh; Dewan Gaupat Rai, Edinburgh; Benjamin Samuel Reyhardt, Ceylon; and Peter Aitken, Glasgow.

BRUSSELS UNIVERSITY.

—The following British practitioners obtained the M.D. degree at the June examination, viz.:—

E. S. Bell, A. D. Cowburn, C. J. Glasson (Honours), J. S. Hudson, C. Lamplough, W. McCall, J. Persehouse, W. Reeve, and Spencer Cox.

FOREIGN UNIVERSITY INTELLIGENCE.

—*Barcelona:* Dr. Francisco Millán y Guillén has been appointed to the chair of Anatomy and Embryology.—*Berlin:* Dr. Friedrich Kopsch has been recognised as *privat-docent* of Anatomy and Dr. Hugo Michaelis and Dr. Wilhelm Zinn as *privat-docenten* of Internal Medicine.—*Budapest:* Dr. Paul Kuzmik has been recognised as *privat-docent* of Surgery.—*Erlangen:* Dr. Richard Fleischer, Extraordinary Professor of Internal Medicine, has been appointed to the chair of Medical Propædeutics and the History of Medicine. Dr. Ludwig Heim, Extraordinary Professor, has been appointed Director of the Institute of Hygiene and Bacteriology.—*Giessen:* Dr. Hans Köppe has been recognised as *privat-docent* of Physiology.—*Innsbruck:* Dr. Ludwig Kerschner, Extraordinary Professor of Histology and Embryology, has been promoted to be Ordinary Professor.—*Leipsic:* Dr. Otto Schwarz, *privat-docent* of Ophthalmology, has been promoted to be Extraordinary Professor.—*Munich:* Dr. Philipp Schech, Extraordinary Professor of Internal Medicine, is giving up his lectures on Balneo-therapeutics and Climatology and will devote himself to Laryngology. Practical instruction in hydro-therapeutics, electro-therapeutics, and other mechanical methods of dealing with disease will be given by Dr. Hermann Rieder, who has been appointed to an Extraordinary Professorship.—*Naples:* Dr. Carlo Gangitano has been recognised as *privat-docent* of Operative Medicine.—*Prague (German University):* Dr. Ludwig Waelsch has been recognised as *privat-docent* of Dermatology and Syphilis, and Dr. A. Velich as *privat-docent* of General and Experimental Pathology.

PRESENTATIONS TO MEDICAL MEN.

—The members of the Ilfracombe Choral Society have presented Mr. John Twiname Gardner, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., with a 70-guinea grandfather's clock in recognition of his services as honorary conductor. The presentation was made by Mrs. Bassett of Watermouth Castle in the presence of a large gathering of ladies and gentlemen.—On July 12th Sir James Laing, in the lecture hall of the Sunderland Infirmary, presented to Mr. G. B. Morgan, L.R.C.S. Irel., L.S.A., the senior surgeon of the institution, a testimonial consisting of his portrait, a brass tablet to be placed in the Morgan Ward, a silver bowl, a silver candelabrum, silver candlesticks, and a silver tray. These presents were subscribed for by the president, vice-presidents, members of the General Committee, and the medical board of the infirmary. Mr. Morgan has been connected with the Sunderland Infirmary for upwards of 40 years and during that long career has done, perhaps, more than any other individual to promote the interests of the charity. Mr. Morgan is not retiring from the staff and it is to be hoped that he may be able to retain his position for many years to come. There is no member of the profession in the neighbourhood more universally respected than Mr. Morgan and no one better deserves the position he enjoys.—The members of the Rotherham Borough Police ambulance class, on the occasion of the distribution of the certificates and medallions for efficiency on July 15th, presented to Mr. F. B. J. Baldwin, M.R.C.S. Eng., of Rotherham, a silver and ebony inkstand as a memento of his appreciated instructions on first aid.—On July 16th at a meeting of the members of the Hull Railway Goods No. 1 Ambulance Class Mr. James Stothard, M.R.C.S. Eng., of Hull, was the recipient of an ivory-handled malacca cane

mounted in silver and bearing an inscription, in recognition of his honorary services to the class. — Mr. S. Macaulay, L.R.C.P. Edin., L.F.P.S. Glasg., who has been on the surgical staff of the Newcastle Throat and Ear Hospital for 17 years, has, on the eve of his departure to South-Western Australia, been presented by his colleagues and other officials of the institution with an illuminated address expressive of their esteem. Mrs. Macaulay was at the same time presented with a diamond and ruby ring. — Mr. C. F. France, M.R.C.S. Eng., L.R.C.P. Lond., was the recipient on July 23rd from the members of the Great Central Railway (Wigan Centre) Ambulance Class of a silver-mounted walking-stick as a mark of esteem.— Mr. B. J. Adam, M.B., Ch.M. Glasg., who has practised for the past ten years at Beaufort, Victoria, Australia, has been presented by the inhabitants of the town and district of Beaufort with an illuminated address and a piece of plate on his leaving the locality.—On July 16th Mr. P. B. Stoney, L.R.C.P. Edin., M.R.C.S. Eng., of Millom, Cumberland, was the recipient from the local ambulance class of an umbrella bearing an inscription and a new edition of an important medical work, as tokens of thanks for his first aid ambulance lectures.

VACCINATION GRANT.—Mr. George Stevens, of Norton, Bury St. Edmunds, public vaccinator of the Stow Union, has been awarded the Government grant for efficient vaccination for the tenth time in succession.

THE DISAPPOINTMENTS OF A WORKHOUSE NURSE. —At the meeting of the Keynsham board of guardians held on July 26th the chairman announced that the candidate whom they wished to appoint as nurse to the workhouse had withdrawn her application as there was no sea view at Keynsham. She was also disappointed because there was no tennis court for her use. Some considerable discussion took place upon the bill for travelling expenses which the candidate had incurred, but the guardians eventually decided to allow them.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.— The deaths of the following eminent foreign medical men are announced:—Dr. Wilhelm Lohmann, one of the representative members of the Hanover Medical Council, at the age of sixty-three years. His views on medical politics were what is called Liberal, as he was opposed to all measures directed against quackery.—Dr. Alfred Obalinski, Professor of Surgery in the University of Cracow, at the age of fifty-five years. He was a voluminous writer on many subjects of a surgical character and was recognised as one of the first of Polish surgeons.—Dr. Dufay, formerly Senator for Loir-et-Cher.— Dr. Resario Pugliatti, Extraordinary Professor of Midwifery and Gynæcology in the Messina Medical School.—Dr. Carlo Giacomini, Professor of Anatomy in the University of Turin.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Food Products Adulteration.

THE Bill on this subject introduced in the House of Commons by Mr CHAPLIN was withdrawn on Thursday, July 28th, without any attempt being made in the House to read it a second time.

Vaccination Bill.

The House of Lords received the Vaccination Bill from the Commons on Monday, Aug. 1st and at once read it a first time, and on Tuesday, Aug. 2nd, after a short speech from Lord HARRIS, read it a second time, fixing the committee stage for Thursday, Aug. 4th.

HOUSE OF COMMONS.

THURSDAY, JULY 28TH.

Experiments on Living Animals.

Mr. SAMUEL SMITH asked the President of the Board of Agriculture whether he had consented to a vivisectional laboratory being attached to the Department of the Board of Agriculture at which experiments may be made on horses, dogs, and other highly organised animals; and whether such experiments were allowed there without the use of anæsthetics.—Mr. LONG replied: Our veterinary officers are at present engaged in an investigation into the curative and other properties of mallein, and they have also to diagnose suspected cases of rabies. For these purposes inoculation is requisite and the officers in question have therefore obtained certificates under the Act of 1876. There has been no new departure in this respect, it having been customary for many years past for my veterinary advisers to obtain such certificates for investigations connected with the suppression of contagious diseases amongst animals. Anæsthetics are employed in connexion with the work under the second head above referred to, but not in cases under the first head. No experiments have at any time been made by my officers upon dogs.

Colonel LOCKWOOD raised this question in connexion with the vote for the Home Office on Friday, suggesting that the laboratories where the experiments are carried on should be open to the inspection of University graduates and medical men as representing the public.—Sir MATTHEW WHITE RIDLEY assured the House that the Act is very strictly enforced. He could not admit, however, that University graduates representing the public should have the right to be present whenever an experiment was made. It was provided that the experiments should be real experiments, and should be performed in a proper place, that the experimenters should be recommended by competent scientific men and that a return should be made of what was done. All these requirements were strictly enforced. If the number of experiments had increased in the last few years the increase was due to inoculation experiments. The surgical experiments had very much decreased. He should be ready to meet any reasonable suggestion as to the better working of the Act.

The Vaccination of Pupil Teachers.

Mr. LABOUCHERE asked the Vice-President of the Committee of Council on Education whether it was his intention to maintain in the Education Code the article which requires probationers for pupil teachership to show proof of vaccination before the department assents to their indentures.—Sir JOHN GORST replied that the Committee of Council had no intention of changing the rule which requires pupil teachers to be vaccinated before admission.

Rabies in London

Mr. TRITTON asked the President of the Board of Agriculture if he was now in a position to withdraw the order relating to the muzzling of dogs in the metropolitan area south of the Thames.—Mr. LONG, in reply, said: The fact that an outbreak of rabies occurred at Bow so recently as June 8th last shows, I am afraid, that although the position has so substantially improved, there is still reason to believe that the disease lingers within the metropolitan area. My hon. friend will understand that I am very anxious to avoid the necessity of reimposing any of the muzzling orders now in force when once they have been withdrawn, and under existing circumstances there would be a great danger that this would be the case, so far as South London is concerned.

FRIDAY, JULY 29TH.

Vaccination

Mr. TALBOT asked the President of the Local Government Board whether he would consider the advisability of circulating to the various boards of guardians throughout the country information on the subject of vaccination which might be distributed by them in leaflet form so as to carry out the intention of Parliament to encourage the general use of vaccination though no longer enforced by law.—Mr. CHAPLIN replied that he was quite prepared to consider the proposal, though he must not be understood as giving any pledge on the subject.

Medical Service at the Army Manœuvres.

Captain NORTON asked the Under Secretary of State for War whether he could state the number of field hospitals and bearer companies as well as the number of medical officers and men of the Army Medical Corps required for the forces to be employed at the forthcoming manœuvres.—Mr. BRODRICK replied that there would be 4 field hospitals and 2 bearer companies; 72 officers and 301 men of the Royal Army Medical Corps would be employed at the manœuvres.

Woolsorters' Disease in Bradford.

Mr. FORTESCUE FLANNERY asked the Home Secretary whether his attention had been called to recent deaths from woolsorters' disease in Bradford occurring from alleged infection in the carding-room as distinguished from the sorting-room; whether the recently adopted woolsorters' rules had been extended to the carding-room; and whether he could see his way to hold an inquiry, through the factory inspectors or otherwise, as to whether or not the rules should be extended to carding-rooms.—Sir M. WHITE RIDLEY replied: My attention has been called to this matter. The reports I have received showed that in the most recent case, though the man was employed in the card-room it was not from his own work that the infection reached him. The rules do not apply to the process of carding and as they deal with dust as the medium of infection could not be applied *en bloc*. The matter is a serious one and I propose to institute inquiries.

Lead and Phosphorus Poisoning.

In connexion with the vote for the Home Office there was long debate at this sitting on lead-poisoning in the Potteries and "phossy jaw" in the match industry. Speeches were delivered by Mr. Tennant, Sir John Stirling-Maxwell, Sir Charles Dilke, Mr. Asquith, and others calling attention to the state of affairs and inviting action on the part of the Home Office to deal with it.—Sir MATTHEW WHITE RIDLEY, in his reply, explained what has been done by his department, and the inquiries which are being made. He said they were beginning to find out that the special rules are not likely to be sufficient to meet the case, and he intimated that when the proper time arrives he would not be averse to undertaking further legislation. He also expressed his readiness to consider what advantage is likely to accrue from sending a lady inspector to reside and carry on her work in the Potteries district.

SATURDAY, JULY 30TH.

The Vaccination Bill.

The House occupied several hours of this sitting with the consideration of the Vaccination Bill. Members on the Ministerial side of the House put forward a motion for the recommittal of the Bill, mainly on the ground that the question of conscientious objection required reconsideration. The Government met the motion by saying that this subject had been sufficiently discussed and that the House must either accept the Bill as it stood or abandon it altogether. Several members

referred to the attitude of the medical profession towards the Bill, and in regard to the declaration of the Royal College of Physicians of London Mr. CHAPLIN said that while he agreed with every word in it he could not help thinking that it would have been a more useful and practical declaration if it had been said whether or no the Royal College agreed with the unanimous recommendation of the Royal Commission for the insertion of a conscience clause. When the issue was brought to a vote only 29 Members voted for recommittal and 133 members voted against it. The motion thus disposed of, the House gave a third reading to the Bill.

MONDAY, AUG. 1ST.

Vaccination Prosecutions in Scotland.

Dr. CLARK asked the Lord Advocate whether his attention had been called to recent vaccination prosecutions at Aberdeen and at Dundee; whether he was aware that in the latter case the sheriff stated that the procedure was oppressive in view of the English legislation which proposed to give relief to persons with conscientious scruples; whether there had been a recent order by the Scottish Local Government Board in favour of more rigorous prosecutions; and whether the majority of the parish council of Abbotshall, in the county of Fife, had resigned in consequence.—The LORD ADVOCATE: My attention has been called to the cases referred to. The case at Dundee was tried before the sheriff substitute, not the sheriff. I have no knowledge of what he said except from the newspaper reports. The answer to the third paragraph of the question is in the negative. On the contrary, I am informed by the Local Government Board for Scotland that they have not departed from the line which they have all along adopted—namely, that parish councils are bound to carry out the existing law. It is the fact that on being called upon to carry out the existing law in regard to first prosecutions, 6 out of 11 of the parish councillors of Abbotshall resigned their seats at the parish council.

TUESDAY, AUGUST 2ND.

Accommodation for Pauper Lunatics in Devon.

Mr. SEALE-HAYNE asked the President of the Local Government Board whether he was aware that for some time past the Devon County Asylum at Exminster has been overcrowded; that the Newton Abbot Board of Guardians has been compelled to send several patients to other asylums, involving a great increase of expense; and that a patient certified by a justice of the peace for removal to an asylum is at the present time unable to be removed as there is no room for her reception either at the Devon County Asylum or other local asylums, or suitable accommodation in the Newton Abbot workhouse. Whether it was true that the Devon County Council are prepared to give increased asylum accommodation, but owing to the great delay which has arisen in consequence of a dispute with the Lunacy Commissioners in regard to the water-supply they had not yet done so; and whether he would take steps to impress upon the authorities the necessity of meeting without further delay the urgent want of increased asylum accommodation for pauper lunatics in the county of Devon.—Sir M. WHITE RIDLEY read this reply, viz.: It is the case that this asylum has for some time past been overcrowded and that on account of difficulties attending the supply of water approval of plans for the enlargement of the asylum was delayed until an adequate and wholesome supply was obtained. These difficulties have now to a great extent been surmounted and I approved in February last of plans of an extension which will provide for additional patients.

Hospital Accommodation at Malta.

Mr. BRODRICK, replying to a question by Dr. Tanner on this subject, said: In view of the increased garrison of Malta the hospital accommodation requires revision and the erection of a new hospital is under consideration. Those hospitals now in use are as sanitary as it is possible to render buildings in Malta which were not built specially for the purpose to which they are now devoted.

Report of the Army Medical Department.

Mr. BRODRICK, in answer to Dr. Tanner, explained that the Report of the Army Medical Department had been presented formally in order to allow its issue during the Parliamentary recess. It would not be ready for publication until late in the year as the returns for India had not yet reached this country.

The Supply of Artificial Limbs in the Navy.

Sir ELLIOTT LEES asked the First Lord of the Admiralty what were the regulations in the service with reference to the supply of artificial limbs to seamen who whilst on duty met with accidents entailing the amputation of a leg or an arm; and whether it would be practicable in all such cases to supply the injured seaman on his discharge from hospital with the best artificial limb procurable free of charge to himself.—Mr. MACARTNEY answered the question in the following terms, viz.: It is the practice to supply in such cases, free of charge to the man, the substitute either for arm or leg which is considered to be most suitable to his requirement. The "best artificial limb procurable" is often an elaborate apparatus which frequently gets out of order and would often not be so useful to the recipient.

BOOKS, ETC., RECEIVED.

ALCAN, FÉLIX, Paris.
Physiologie. Travaux du Laboratoire de M. Charles Richet. Tom quatrième. 1898.

AL-MUKTATAF PRINTING OFFICE, Cairo.
Lectures on Asepsis in Surgery. By H. Milton, M.R.C.S. Re-written in English by Habib Khayatt, M.B. Edin. 1897.

ARNOLD, EDWARD, Bedford-street, Strand, London.
Suggestions for a Scheme of Old-age Pensions. By L. Holland, M.P. 1898. Price 1s.

BAILLIÈRE, TINDALL, AND COX, London.
Atlas and Essentials of Pathological Anatomy. By Dr. C. Bollinger. Vols. I. and II. Illustrated. 1898. Price 12s. 6d. each.
Diseases of the Stomach. By Max Einhorn, M.D. Second Edition. 1898. Price 12s. 6d. net.

BALLIERE, J. B., ET FILS, Paris.
Les Actualités médicales: La Diphtérie. Par H. Barbier et G. Ulmann. 1898.

BLISS, SANDS, AND CO., Burleigh-street, Strand, London.
Health-giving Waters. Being an account of the Waters of Pouges. By Dr. J. Janicot. With Plans and Views. 1898. Price 3s. 6d.

CARRINGTON, CHAS., Paris.
The Sexual Instinct. By Dr. B. Tarnowsky. Translated by W. C. Costello, Ph.D., and A. Allinson, M.A. 1898.

CASSELL AND CO., London.
Elements of Histology. By E. Klein, M.D., F.R.S., and J. S. Edkins, M.A., M.B. Illustrated. New edition. 1898. Price 7s. 6d.

CHURCHILL, J. & A., Great Marlborough-street, London.
A Simple Method of Water Analysis. By J. C. Thresh, M.D. Vict., D.Sc. Lond., D.P.H. Camb. Second edition. 1898. Price 2s. 6d.
Ovariotomy and Abdominal Surgery. By Harrison Cripps, F.R.C.S. 1898. Price 25s.

F. A. DAVIS CO., Philadelphia.
Conservative Gynæcology and Electro-Therapeutics. By G. B. Massey, M.D. Third edition. 1898.

HAHN, J. W. & GEO. H., East-street, New York.
Ear Records: a Method of Recording Ear Cases. Arranged by J. C. Lester, M.D., and V. Gomez, M.D. 1898.

HEYWOOD, J., Manchester.
Buxton: its Baths and Climate. By S. Hyde, M.D. Fourth edition. 1898.

KIMPTON, H., High Holborn, London.
Operative Gynæcology. By H. A. Kelly, A.B., M.D. Illustrated. Vol. ii. 1898.

LEWIS, H. K., Gower-street, London.
Practical Organic Chemistry. By Samuel Rideal, D.Sc. Lond. Second edition. 1898. Price 2s. 6d.

LONGMANS, GREEN, AND CO., Paternoster-row, London.
The Essentials of Histology, Descriptive and Practical. By E. A. Schäfer, LL.D., F.R.S. Fifth edition. Illustrated. 1898. Price 8s.
A Manual of Chemical Analysis, Qualitative and Quantitative. By G. S. Newth, F.I.C., F.C.S. 1898. Price 6s. 6d.

MASSON ET CIE, Paris, et CAMILLE COULET, Montpellier.
Consultations Médicales sur quelques Maladies fréquentes. Par Dr. J. Grasset. Quatrième édition. 1898.
Les Défenses Naturelles de l'Organisme. Par A. Charrin. 1898.

MEDICAL PUBLISHING COMPANY, 22½, Bartholomew-close, London.
The Surgical Affections of the Stomach and their Treatment. By A. E. Barker, F.R.C.S. 1898. Price 2s. 6d. net.

NICHOLS AND CO., Oxford-street, London.
The Cerebellum. By H. Davies, M.D. 1898. Price 2s.

OFFICE OF "MUSIC," Wardour-street, London.
The Voice. By C. E. Rowley. 1898. Price 2s.

OLIPHANT, ANDERSON, AND FERRIER, Paternoster-square, London.
Sir Thomas Browne: An Appreciation. By Alexander Whyte, D.D. 1898. Price 2s.

PHILIP, GEO., AND SON, Fleet-street, London.
Rhodes's Steamship Guide. Edited by Thos. Rhodes. 1898-9. Price 5s.

REBMAN PUBLISHING COMPANY, 129, Shaftesbury-avenue, Cambridge-circus, London.
A Text-book of Diseases of Women. By C. B. Penrose, M.D., Ph.D. Second edition, illustrated. 1898. Price 20s.
Atlas of Clinical Diagnosis and Internal Diseases. By C. Jakob. Edited by A. A. Eshner, M.D. Illustrated. 1898. Price 12s. 6d. net.

SANITARY PUBLISHING COMPANY, Fetter-lane, Fleet-street, London.
The Removal and Disposal of Town Refuse. By W. H. Maxwell. Illustrated. 1898. Price 15s. net.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
Physiology, Experimental and Descriptive. By B. C. Colton. 1898. Price 6s.
The Burdett Series, No. 7: Care of Consumptives. By W. H. Daw, L.R.C.P. Lond., M.R.C.S. Eng. 1898. Price 1s.

SMITH, ELDER, AND CO., Waterloo-place, London.
St. Bartholomew's Hospital Reports. Edited by N. Moore, M.D., and W. J. Walsham, F.R.C.S. Vol. xxxiii. 1898.
The Mineral Waters and Health-resorts of Europe. By H. Weber, M.D., F.R.C.P., and F. P. Weber, M.D., F.R.C.P. With a Map. 1898. Price 10s. 6d.

SWAN SONNENSCHEIN AND CO., London.
Natural Hygiene; or, healthy blood the essential condition of good health, and how to attain it. By H. Lahmann, M.D. 1898. Price 4s. 6d.

VOSS, LEOPOLD, Hamburg und Leipzig.
Atlas der Syphilis und Syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. Martin Chotzen. Hefte 9 und 10. 1898.

WASHINGTON GOVERNMENT PRINTING OFFICE.
Public Health Reports. Issued by the Supervising Surgeon-General, Marine Hospital Service. Vol. xii. Nos. 1 to 53. 1898.

WATERLOW AND SONS, London-wall, London.
Third International Congress of Dermatology, held in London, August, 1896. Official Transactions. Edited by J. J. Pringle. 1898.

Royal Societies Club, St. James's-street, London. Its Foundation and Objects. Rules and By-laws and List of Members. 1897.—Magazines, &c., for August: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, St. Peter's Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDERSON, A. R., F.R.C.S. Eng., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Nottingham, Newark, and Bingham, County-court Circuit No. 18.

BARCLAY, J., M.D., C.M. Aberd., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Banffshire.

BARTLETT, R. C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health for the Borough of Romsey.

BEATTIE, G. W., M.D., C.M. Aberd., has been re-appointed Medical Officer of Health by the Failsworth Urban District Council.

BENSON, J. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Ashover Sanitary District of the Chesterfield Union.

BENSON, J. R., F.R.C.S. Eng., has been appointed Sambrooke Surgical Registrar and Tutor in Surgery at King's College Hospital, London.

BROWNING, B., L.R.C.P. Lond., M.R.C.S., D.P.H. Edin., has been re-appointed Medical Officer of Health by the Weymouth Urban District Council.

CAMPBELL, J. A., M.D., F.R.S. Edin., has been appointed an Honorary Consulting Physician to the Counties Asylum, Carlisle.

CHADWICK, C. M., M.D. Oxon., F.R.C.P. Lond., M.R.C.S., has been appointed to the Professorship of Materia Medica, Pharmacology, and Therapeutics for the Department of Medicine of the Yorkshire College.

CUFF, A. W., M.B., B.C. Camb., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, to act generally for the Northern Division (Retford, Doncaster, and Thorne), County-court Circuit No. 18, although appointed a Referee for Circuit No. 13.

DARLEY, A. R., M.D., B.Ch. Dubl., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the County-court Circuit No. 22 (Rugby Division).

DAUNT, ELLIOT, L.R.C.P. Lond., M.R.C.S., L.S.A. Lond., D.P.H., Conjoint R.C.P. & R.C.S. Dubl., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Kent District of Circuit No. 48.

FARQUHARSON, W. F., M.D., C.M. Edin., has been promoted to the office of Medical Superintendent of the Counties Asylum, Carlisle.

FINNY, J. M., M.D. Dubl., L.R.C.P., L.R.C.S. Irel., has been appointed to the vacant seat on the Board of Superintendence of the Dublin Hospitals, vice S. Gordon.

GEOGHEGAN, A. V., M.D., B.S. Dubl., has been appointed Medical Officer for the Mickleton Sanitary District of the Shipston-on-Stour Union.

HALL, E. F., M.D. St. And., L.R.C.P. Edin., M.R.C.S., has been appointed a Visiting Physician and Surgeon for the Workhouse of the Prescot Union.

HANDFORD, H., M.D., C.M. Edin., M.R.C.P. Lond., M.R.C.S., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Nottingham, Newark, and Bingham, County-court Circuit No. 18.

HEDGES, C. E., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse and the First Sanitary District of the Newport (Salop) Union.

KENNEDY, A. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Plaistow Sanitary District of the West Ham Union.

KENNEDY, D., L.R.C.P., L.R.C.S. Irel., has been appointed a Visiting Physician to the Waterford County and City Infirmary.

LLOYD, EDWARD J., M.D., Ch.M. Aberd., M.R.C.S., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the County-court Circuit No. 29; and to act for the Bangor, Conway, Llandudno, Llangefni, Holyhead, and Menai Bridge County-court Districts.

MCMANUS, GEORGE, L.R.C.P., L.R.C.S. Edin., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the County of Meath.

MILNE, THOMAS, M.D., C.M. Aberd., has been appointed Medical Examiner for the Iron Trades Employers' Insurance Association for the Aberdeen District.

MILROY, J. A., M.B., C.M. Edin., has been appointed a Demonstrator of Physiology for the Department of Medicine of the Yorkshire College.

OGSTON, ALEX., M.D., C.M. Aberd., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Aberdeenshire.

O'MEARA, T. J., M.B., C.Ch. Irel., has been appointed Medical Officer for the Dispensary District of Tullagh, in the Skibbereen Union.

PYE-SMITH, R. J., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, to act generally for the Northern Division (Retford, Doncaster, and Thorne), County-court Circuit No. 18, although appointed a Referee for the Circuit No. 13.

PHILLIPS, HUGH R., M.B., Ch.B. Edin., has been appointed Assistant House Surgeon to the County Hospital, York, vice R. H. Ashwin, resigned.

PITT-TAYLOR, F. S., M.B., B.Ch. Vict., has been appointed House Surgeon to the Birkenhead and Wirrall Children's Hospital.

SNELL, S., F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Retford, Doncaster, and Thorne County-court Circuit No. 18, *pro tem.*, and for ophthalmic cases only.

TAYLOR, JAMES, M.D., C.M. Aberd., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Banffshire.

THRESH, J. C., D.Sc. Lond., M.D. Vict., D.P.H. Camb., has been appointed Lecturer on Public Health at the London Hospital Medical College.

TRIBE, P. C. E., M.B. Lond., L.R.C.P., has been appointed Sambrooke Medical Registrar and Tutor in Medicine at King's College Hospital, London.

WHITE, C. P., M.B., B.C. Camb., F.R.C.S. Eng., L.R.C.P. Lond., M.R.C.S., has been appointed a Demonstrator of Pathology for the Department of Medicine of the Yorkshire College.

WHITE, V., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Holy Ghost Hospital, Waterford, vice T. J. Tobin.

WILL, J. C. O., M.D., C.M. Aberd., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for Kincardineshire.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM ROYAL HOSPITAL, Lambeth-road, London.—Second Assistant Medical Officer. Salary £130 per annum, apartments in the hospital, complete board, and washing being provided. Applications to the Clerk, Bridewell Hospital, New Bridge-street, E.C.

BOROUGH OF DERBY.—Medical Officer of Health. Salary £500 per annum, increasing by £50 per annum to £600 at intervals of two years. Applications to the Town Clerk, Town Hall, Derby.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £70, with board, residence, and washing.

BRADFORD ROYAL INFIRMARY.—Honorary Physician.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE, Chelsea, S.W.—A Teacher of Hygiene.

CARNARVONSHIRE AND ANGLESEY INFIRMARY AND DISPENSARY, Bangor. House Surgeon. Salary £70 per annum, with board and lodging in the house.

CUMBERLAND AND WESTMORELAND ASYLUM, Carlisle.—Senior Assistant Medical Officer. Salary £120 a year, with board. Applications to Dr. Farquharson, Garlands, Carlisle.

DERBY COUNTY ASYLUM, Derby.—Second Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120, with board, lodging, and washing.

DEVONSHIRE HOSPITAL, Buxton.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E. — Unqualified Clinical Clerkships, tenable for three months.

HUDDERSFIELD INFIRMARY.—Senior Assistant House Surgeon. Salary £50 per annum, with board, residence, and washing. Also Junior Assistant House Surgeon. Salary £40 per annum, with board, residence, and washing.

KING'S COLLEGE HOSPITAL, London.—Assistant Physician.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

OWENS COLLEGE, Manchester.—A Senior and Junior Demonstrator in Physiology. Stipends £150, rising to £200, and £100, rising to £150, respectively.

PARISH COUNCIL OF EVIE AND RENDALL.—Medical Officer. Salary £45 a year and a free house. Apply to the Inspector of Poor, Evie.

PARISH OF FULHAM.—Public Analyst. Salary £200 per annum. Applications to the Clerk to the Vestry, Town Hall, Walham-green, S.W.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing.

RURAL DISTRICT COUNCIL OF CHESTERFIELD.—Medical Officer of Health for one year. Salary at the rate of £500 per annum, which includes all expenses, stationery excepted. Travelling expenses outside the district will be allowed. Applications to the Clerk to the Council, Union Offices, Chesterfield.

ST. ANN'S HILL HYDROPATHIC ESTABLISHMENT, County of Cork, Ireland.—Resident Medical Superintendent, married.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon. Salary £50 per annum, with board and residence.

SOMERSET AND BATH ASYLUM, Wells, Somerset.—Junior Assistant Medical Officer, unmarried. Salary £110, rising to £130, with board, lodging, washing, and attendance.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees. — House Surgeon, non-resident. Salary £200 per annum.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Board, washing, and lodging in the hospital provided.

UNIVERSITY COLLEGE, Bristol, Faculty of Medicine.—Demonstratorship of Physiology. Stipend £125.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer to the Provident Dispensary attached to the hospital. Salary £80 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

COMBE.—On July 30th, at Brockley-road, S.E., the wife of Charles E. Combe, L.D.S., of a daughter.

HEWLETT.—On July 18th, at Rosebery-villas, Southfields, S.W., the wife of Richard T. Hewlett, M.D., M.R.C.P., of a son.

LEFTWICH.—On July 30th, at Kennington-park-road, the wife of Ralph W. Leftwich, M.D., of a daughter.

MINTER.—On Aug. 2nd, at Sussex Lodge, Uxbridge, the wife of L. J Minter, M.D., M.R.C.S., of a son.

ORMEROD.—On July 30th, at Liphook, Hants, the wife of Charles E. Ormerod, M.D., of a daughter.

RENTZSCH.—On July 29th, at The Firs, Waltham Cross, Herts, the wife of Sigismund H. Rentzsch, of a daughter.

SMITH.—On Aug. 2nd, at Hillbank, Monifieth, Forfarshire, the wife of R. Sinclair Smith, L.R.C.P., L.R.C.S. Edin., of a son.

SUMPTER.—On July 26th, at Denton Hall, Northumberland, the wife of W. J. Brnely Sumpter, L.R.C.P. Lond., M.R.C.S., of Sheringham, Norfolk, of a son.

MARRIAGES.

COCK—EVANS.—On July 27th, at St. Stephen's, Westbourne-park, W., Frederick William Cock, M.D., son of the late Frederick Cock, M.D., to Frances Louisa Evans of 83, Inverness-terrace, Hyde-park.

HEMSTED—MUNN.—On July 28th, at St. Mary's, Laverstoke, Hants, Rustat Henry Hemsted, M.R.C.S., L.R.C.P. Lond., eldest son of Henry Hemsted of Haverhill, Whitchurch, Hants, to Gertrude Mary (Meemee), daughter of Winchester Munn.

SETON-ORR—FLOWER.—On Aug. 3rd, at St. Peter's Church, Cranley-gardens, A. B. Seton-Orr, M.D., of 37, Alfred-place West, South Kensington, to Henrietta Laura Owen (Lollie), daughter of Major Lamorock Flower of Cornwall-mansions, Queen's-gate.

WHITE—WYMAN.—On July 28th, at St. John's Church, Putney, by the Rev. J. White Horne, assisted by the Hon. and Rev. R. Henley, Edwin Francis White, F.R.C.S., of Westlands, Putney, only son of the late Edwin White and grandson of the late Samuel White White of Charlton Marshall, Dorset, and Farnecombe, Surrey, to Mabel, only daughter of Dr. and Mrs. Wyman of Putney. At home Sept. 12th to 14th.

DEATHS.

BEATSON.—On July 29th, at Cromwell-road, Earl's-court, Surgeon-General John Fullarton Beatson, M.D., C.I.E., aged 81 years.

MURRAY.—On July 27th, at Claughbane, Sheringham, John Murray, M.D., Surgeon-General, aged 88.

PECK.—On July 28th, at Malta, William Godfrey Peck, Surgeon R.N. (H.M.S. *Anson*).

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1898, which was completed with the issue of June 25th, and the Title-page to the Volume were given in THE LANCET of July 2nd.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

A FAMOUS CENTENARIAN PHYSICIAN.

ACCORDING to *Le Temps*, Dr. Mavrogenis, the last survivor of the Grecian War of Independence, has just completed his 100th year. Born at Paris in 1798 he prosecuted his medical studies at an Italian university, but in 1821, before his education was quite complete, he returned to his native country, where he greatly distinguished himself in several battles. The numerous wounds he then received have not, however, prevented him from attaining to centennial honours, and he is said to be at the present time in the enjoyment of robust health. Dr. Mavrogenis comes of a family famous for longevity and a sister who is ten years his senior lives with him.

"MR. MOULD FAILS TO FIND MR. JOBLING."

To the Editors of THE LANCET.

SIRS,—There seems to be no limit to the audacity of advertisement nowadays. Some time ago a patient of mine stopped me in the street. "Doctor," she said, "as you always do your posting with our people perhaps you would do us a further favour? Just let your patients know, *when you think you can*, that my husband has invested in a beautiful brand new glass hearse. It looks much neater than the other people's old black one, and we can do it cheaper, too!" This was said quite in the way that a business person discusses business and I am sure was not meant as an insult. I think some of these things are said to us members of the profession because our suasive powers are regarded with high esteem. Gruesome as the subject seems, a moment's reflection will convince one that there is more of a normal and healthy tone in the above than in that of the carneying insurance agent who comes with an idea of getting the doctor's help in "getting through" a proposal on "the life of another," and asks him to "let the case through as easy as you can," when some servant girl is going to speculate 1*s.* a week on somebody else who "doesn't know nothing about it"—a procedure that such insurance offices openly encourage!

I am, Sirs, your faithfully,

July 27th, 1898. VERITAS.

TUMOURS CAUSED BY PATHOGENIC YEASTS.

AT a meeting of the Greifswald Medical Society, reported in the *Deutsche Medicinische Wochenschrift* of July 21st, Dr. Busse said that although pathogenic yeasts have only been known since the year 1894 a great number of pathogenic species of blastomycetes have been recognised. Their behaviour in the animal body is very interesting, for the naked forms then become surrounded with a capsule which often shows concentric layers. This capsule is very characteristic and gives to the blastomycetes a great similarity to many of the forms which have been described and figured as aggregations of cells enclosed in tumours, and have been regarded as parasites and as the exciting causes of the tumours. There is, in fact, a certain amount of excuse for regarding the yeasts as the causes of the tumours, for when they make their way into the animal body they actually do produce formations resembling tumours. Both at the place of the injection and also in remote organs there occur in the course of weeks or months proliferations which have a glassy-white appearance like myxosarcoma, are very soft, and may ulcerate. Under the microscope, however, the seeming tumours do not present the characteristics of any of the recognised varieties of tumours but are found to be giant colonies of saccharomycetes in the animal organism. Giant cells have appeared in the lungs in great numbers. It is certain, however, that sarcoma has not yet been artificially produced by means of blastomycetes, although it is not impossible that if the virulence of the yeasts could be increased formations might be obtained resembling sarcoma.

MEDICAL ETHICS.

THE *Australasian Medical Gazette* of June 6th reproduces the appended advertisement which appeared in a lay Australian paper: "Dr. A. Crosbie Dixey, Member Royal College Physicians, Edinburgh, wishes to announce he has started a Consulting Practice in New Norfolk. Specialities—Typhoid and other Fevers, and Diseases of Women and Children. 'Woodbridge,' New Norfolk." The Royal College of Physicians of Edinburgh would probably remonstrate with Mr. Dixey if the matter were brought officially to their knowledge.

"THE ARTHUR JEFFARES BARLOW FUND."

To the Editors of THE LANCET.

SIRS,—Kindly acknowledge in your next issue the following subscription to the fund for the widow of the late Mr. Barlow: Dr. W. Alex. Hearnden, £1 1*s.*

I am, Sirs, yours faithfully,

619, Holloway-road, Aug. 2nd, 1898. J. AGAR MATSON, M.D. Dub.

POISONOUS MUSTARD.

PROFESSOR CARLES, of Bordeaux, draws attention to the dangerous character of mustard as manufactured nowadays for wholesale consumption. Formerly, he says, our fathers used to prepare the condiment for themselves, making use exclusively of fine mustard flour and grape must, but gradually the process became more and more complicated and less wholesome. The first downward step was the utilisation of mustard-seed from which the oil had been extracted, but *facilis descensus Averni*, and eventually "mustard came to be manufactured without any mustard flour at all, its place being taken by any ordinary leguminous flour flavoured with pepper, allspice, ginger, and other pungent matters. Mustard, as manufactured at present in France, is usually sold in jars closely corked by the aid of machinery and further protected by means of a metallic capsule which for the most part is highly plumbiferous. As long as the jar remains unopened the contents do not sensibly deteriorate, but once the cork has been extracted a distinct source of danger arises. The cork having been originally inserted under pressure is difficult to replace and, generally speaking, the housewife discards it, contenting herself with the protection afforded by the capsule. The latter thus directly exposed to the acetic vapour quickly grows oxidised, a more or less basic acetate, amorphous or crystalline, being formed which adheres so loosely to the metal that at the slightest shake it falls back into the jar. The acetate of lead is white and sweetish, so there is nothing to draw the consumer's attention to its noxious character. He swallows it heedlessly and should he be a habitual mustard-eater runs a considerable risk of lead poisoning. Professor Carles's advice in conclusion to all mustard-eaters is to reject the brands the capsules of which become lined either with minute crystals or with a white powder.

FORBEARANCE RECOMMENDED.

To the Editors of THE LANCET.

SIRS,—I should very much like your opinion on the ethics of the enclosed letter which was written to the board under which I hold the parish appointment. The facts of the case are shortly these: A man was attended by Mr. ——. The man then got a parish order and sent for me. I went and saw him and recommended removal to a hospital and said that I would treat him till the removal was arranged. They never fetched the medicine and they never sent me any word whether he had gone to the hospital or whether he was better or worse. The next thing I heard about the case was when the letter enclosed was sent me. Of course I did not visit him a second time as they had not sent for any medicine, or requested me to do so.

I am, Sirs, yours faithfully,

July 30th, 1898. THE POOR LAW MEDICAL OFFICER.

[ENCLOSURE.]

The Chairman of Board of Guardians ——. July 5th, 1898.

DEAR SIR,—I wish to move a complaint respecting —— —— of ——. A fortnight ago the medical officer for the parish saw —— —— and has not seen him since. The man is in a serious condition. It was a hospital case and the man ought to have been admitted before, at present he is in too serious a condition to be moved. I have been attending the poor man, but I do not see why I should attend parish cases without fee. If the parish is too large for one medical officer why not divide into districts? I am on the border of the parish and could do the work in this district. Yours faithfully,

(Signed) —— ——.

*** The suggestion should not have been made by the practitioner that he would be happy to supersede the parish officer in part of his work. He was probably in ignorance of the circumstances and it would be unfortunate if the occurrence led to any personal ill-feeling between neighbouring gentlemen of the same profession.—ED. L.

ATTENDANT OR ADVISER.

To the Editors of THE LANCET.

SIRS,—The words "medical attendant" have been applied to medical men for many years by medical journals as well as by the public. Why medical men have allowed themselves to be addressed in this manner I am at a loss to understand. The word "attendant" is generally used in reference to servants in lunatic asylums and other establishments and is most confusing to the public who do not know whether it is the doctor or the servant to whom the term "attendant" has been applied. We never hear of clergymen or lawyers being addressed as attendants; they are called advisers. We cannot expect the public to respect us if we do not respect ourselves.

I am, Sirs, yours faithfully,

July 25th, 1898. MEDICAL ADVISER.

"A POINT UNDER THE EMPLOYERS' LIABILITY ACT."

To the Editors of THE LANCET.

SIRS,—With reference to the query of "A Hospital Surgeon" in THE LANCET of July 30th, *re* the power of entry to a hospital or private house by the employer's surgeon for the purpose of examining the injured person, &c., and your comment thereon which states that there is no obligation upon the patient to submit to it, there seems to be considerable confusion in the minds of your correspondents as between the "Employers' Liability Act, 1880," and the new Act, the "Workmen's Compensation Act, 1897." These are very different Acts both in title and working. If in your reply you mean the former Act "the Employers' Liability Act, 1880," no doubt your reply is correct enough. True, neither of the above, nor any other Acts, confer the power of entry into a hospital or private house for the purpose of such an examination without the occupier's consent, but with reference to the medical examination under the Workmen's Compensation Act, 1897, the patient "*(d) must submit to medical examination.* In order to prevent a fraudulent claim or as far as possible any malingering on the part of the injured workman it is enacted by the First Schedule that any workman who has given notice of an accident shall, if required by the employer, submit to an examination by a duly qualified medical man provided and paid by the

employer. If he refuses to submit to such an examination or obstructs it his right to receive compensation is to be suspended until such examination takes place. Schedule 1 (3). A similar readiness to submit to medical examination in this case either at the request of the employer or at the request of any person by whom the employer is entitled to be indemnified under the Act, is required from the workman from time to time whilst he is in receipt of weekly payments under the Act, subject to a like penalty in case he refuses or obstructs the examination. In this latter case if the workman objects to the employer's medical man or is dissatisfied with his certificate he may submit himself to one of the medical men appointed by the Government for the purposes of this Act, whose certificate is to be final and conclusive. Schedule 1 (11)." ("Ruegg's Employers' Liability and Workmen's Compensation," third edition, 1898. Butterworth & Co., Fleet-street, E.C. Price 10s. 6d.) A copy of the above Acts may be obtained for a few pence at any law stationer's.

I am, Sirs, yours faithfully,

Ilford, July 31st, 1898. MURTAUGH HOUGHTON, M.R.C.S. Eng.

"INCARCERATION OF THE PENIS."

To the Editors of THE LANCET.

SIRS,—A case almost precisely similar to that recorded by Dr. Theodore Floras (vide THE LANCET of July 23rd) came under my notice in the Bedford General Infirmary some three years ago. A man, aged forty-five years, had slipped the iron ferrule of a hoe or some such agricultural implement over the whole length of his penis "early in the morning." He was brought to the infirmary about 9 P.M. the same day in great distress, the organ enormously elongated, tense, blue-black in colour, and so suggesting a piece of strangulated intestine. The constricting iron band would not yield to any such instrument as bone-cutting forceps on account of its thickness and its situation prevented the employment of a file. Finally with difficulty a broad-grooved director was forced through the ferrule, and with the aid of a friend, a practical engineer from a neighbouring foundry, the metal was divided posteriorly with a keyhole finger saw. This done we found the ring too rigid to be bent back upon itself and so we had to continue the sawing anteriorly. After three hours' work the ferrule was removed in two halves. There was considerable loss of skin, especially over that part of the urethra which had been indented by the iron, and the resulting ulcer was a month in healing; no catheterism was necessary and the organ returned to its natural size in ten days' time. No stricture followed. The ferrule was 1¼ in. long, the same in diameter, ⅛ in. thick, and weighed nearly 2 oz.—I am, Sirs, yours faithfully,

Bedford, Aug. 3rd, 1898. G. H. GOLDSMITH, M.B. Cantab.

THE COLOUR OF NEGRO CHILDREN WHEN BORN.

IN the editorial columns of *Pediatrics* of July 1st it is remarked on the authority of Dr. Farabery, "whose statement will doubtless be supported by many medical practitioners who have had experience in negro obstetrical practice," that the negro baby at the time of its birth is of exactly the same colour as its white brother, and it shows signs of colour only after an interval usually of several days but often extending to many weeks. The evidence of a French physician, founded on experience obtained at a Soudanese village exhibited in Paris, was to the effect that the negro baby comes into the world a pale pink colour, the second day it is lilac, ten days afterwards it is of the colour of tanned leather, and at fifteen days it is chocolate-coloured.

THE PRINCE OF WALES'S TRAVELLING COUCH.

THE special carrying couch for the removal of the Prince of Wales from Marlborough House to the Royal yacht *Osborne* stationed at Portsmouth was constructed by Mr. John Carter, of New Cavendish-street, to whom it must be a great source of pleasure to learn that his appliance gave every satisfaction to the Royal patient.

A. B. C.—Since the researches of Döderlein and others have demonstrated the important part played by the vaginal secretion in the prevention of septic infection the tendency has been to limit the number of midwifery cases in which it is either necessary or desirable to employ vaginal or uterine douches. But a certain number of cases will be met with from time to time in which it may be advisable to use a douche; such cases, for instance, as are attended by some abnormality or in which the patient likes the sensation of comfort and cleanliness afforded by a daily vaginal injection. In these cases an irrigator should always be employed and it will be found if the can be suspended at a height of 3 ft. or so above the level of the patient's body that the pressure will be ample without being at all excessive. A metal Budin's intra-uterine tube should be employed. It admits of ready cleansing by boiling, and by its horseshoe shape allows of a free reflux of fluid from the uterus. A safe and at the same time efficient antiseptic to use is a solution of liq. iodi of the strength of from 1 or 2 drachms to the pint of water. If perchloride of mercury be preferred the rule never to use it stronger than a solution of 1 in 1000 for the external genitalia, 1 in 2000 for the vagina, and 1 in 3000 for the uterus must be strictly adhered to, and care must be taken by compressing the uterus and by retracting the perineum to ensure that none of the solution be retained. Other antiseptics which may be employed either for the vagina or the uterus are carbolic acid solution of the strength of 1 in 80, or creolin of the strength of half a drachm to the pint of water.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat Hospital (2 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex, (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat Hospital (2 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat Hospital (2 P.M. and 6 P.M.).

SATURDAY (13th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.), London Throat Hospital (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 4th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
July 29	29·95	N.	...	98	61	55	55	59	Cloudy
" 30	30·21	N.E.	...	111	65	53	51	56	Cloudy
" 31	30·29	W.	...	116	81	50	58	64	Fine
Aug. 1	30·09	W.	...	127	81	55	59	64	Cloudy
" 2	30·02	W.	...	120	80	57	58	62	Cloudy
" 3	29·90	W.	0·03	120	76	59	60	65	Fine
" 4	29·99	N.W.	...	106	70	54	57	61	Fine

During the week marked copies of the following newspapers have been received: *Dewsbury Reporter, East Essex Times, Hull Daily Mail, Derby Daily Telegraph, Times of India, Pioneer Mail, South Wales Daily News, Todmorden Advertiser, Lancaster Guardian, Architect, West Middlesex Herald, Brighton Gazette, Sussex Daily News, Ayrshire Post, Scotsman, Warwick Advertiser, Builder, Yorkshire Post, East Anglian Times, Portsmouth Times, Citizen, Dundee Advertiser, Cheltenham Mercury, Leeds Mercury, Driffield Observer, Hampshire Post, Cambridge Chronicle, Yarmouth Advertiser, Bristol Mercury, Wigan Examiner, Lowestoft Standard, Lynn Advertiser, Liverpool Daily Post, Luton Reporter, Leicester Post, Birmingham Gazette, Manchester Guardian, Tunbridge Wells Courier, Boston Guardian, Morning Leader (London), Shrewsbury Chronicle, Beverley Guardian, Batley News, Bridgwater Independent, Blackpool Gazette, Le Courrier de la Presse, Sanitary Record, Mining Journal, City Press, Local Government Chronicle, Hertfordshire Mercury, Reading Mercury, Surrey Advertiser, Local Government Journal, Longton Weekly Herald, Bideford Weekly Gazette, Dunstable Borough Gazette, Guernsey Star, Ulverston Advertiser, Poole Herald, Banffshire Advertiser, Elgin Courant, Crewe Advertiser, Pembroke Dock Gazette, Public Health, &c. &c.*

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